

MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVI. No. 17.
WEEKLY.

BALTIMORE, NOVEMBER 30, 1889.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

JAMES SMITH & CO. MANUFACTURERS' SUPPLIES
MARKET ST. CO. 421 RACE ST. PHILADELPHIA

EUREKA
SOLE MAKERS OF PACKING
RED DIAMOND LABEL & TRIG
PHILADELPHIA

WOOLLEN & COTTON MACHINERY
SHAFTING HANGERS
PULLEYS OF EVERY VARIETY
PENNA.

MANUFACTURERS' EVERY DESCRIPTION CARD OF CLOTHING
JAMES SMITH & CO. 421 RACE ST. PHILADELPHIA

Milling Outfits for Flour and Meal.
WE MAKE ROLLS AND PORTABLE MILLS COMPLETE.
Manufactory Established in 1851. Pamphlets with Prices Mailed Free.
NORDYKE & MARMON CO., INDIANAPOLIS, IND.

ROOT'S NEW WATER TUBE STEAM BOILER.
Safe, Economical, Durable.
Recently adopted by the BRUSH ELECTRIC LIGHT CO., at Louisville, the EDISON ELECTRIC LIGHT CO., Detroit, and the COLUMBUS EDISON ELECTRIC LIGHT CO., Columbus, Ohio.
Abendroth & Root Manufacturing Co.
28 CLIFF STREET, - - - NEW YORK.

SELLING AGENTS:
CHAR. E. ASHCROFT, Eng., 49 Nassau St., Boston, Mass.
V. HERRILL, 129 N. Third Street, Phila., Pa.
SMITH & KNAPP, 65 S. Canal Street, Chicago, Ill.
JOHN S. MOORE, 180 Gravier Street, New Orleans, La.
MORTON, REED & CO., Baltimore, Md.

ELEVATORS
MORSE ELEVATOR WORKS.
MORSE, WILLIAMS & CO. Successors to CLEM & MORSE.
Manufacturers and Builders of HYDRAULIC STEAM, BELT and HAND-POWER PASSENGER and FREIGHT ELEVATORS.
Office, 1105 FRANKFORT AVE.; Works, FRANKFORT AVE., WILDEY AND SHACKANAXON STREET, PHILADELPHIA, PA.
Send for Illustrated Circulars. Branch Office, 108 Liberty St., New York. MORTON, REED & CO., 3 & 5 German St., Agents for Baltimore. Boston Office, 14 High St.

SPECIAL NOTICE.

We have just issued a Catalogue and Price List of Mining, Tunneling and Quarrying Machinery. This Catalogue will be MAILED FREE TO CONTRACTORS, ENGINEERS, AND TO ANY ONE ENGAGED OR INTERESTED IN ROCK EXCAVATION OR AIR COMPRESSION. To all other persons it will be sent on receipt of 50 cents in postage stamps.

INGERSOLL-SERGEANT ROCK DRILL COMPANY,
10 Park Place, New York.

THOS. K. CAREY & BROS. Agents for the Dodge INDEPENDENCE Patent Wood Split Pulleys.
Machinery, Mill and Railroad Supplies.
26 Light Street, Baltimore, Md.
Carrying Car-Load Lots of Assorted Sizes in their Warehouse in Baltimore.
WRITE FOR PRICE-LISTS AND DISCOUNT.

The Milburn Patent Wood Split Pulleys are the Best in the World.
Cotton Gins, Engines and "Self Packing" Hydraulic Presses, Boilers, Gins, Feeders and Condensers.
Write for Illustrated Catalogue and Price List.
MILBURN GIN & MACHINE CO., MEMPHIS, TENN.
Largest works of the kind in the world. E. VAN WINKLE GIN & MACHINERY CO., Atlanta, Ga.

25 to 60 per cent. more power with same belt than iron pulleys.
LIGHT, STRONG AND CONVENIENT.
Every One Guaranteed.
LEONARD & MCGOY, Agents, 110 Liberty Street, New York.
SMITH & COURTNEY, Agents, Richmond, Va.

STEEL RAILS, (ALL WEIGHTS) FIG IRON, IRON ORE, SCRAP.
ROBINSON & ORR, PITTSBURGH, PA. Steel Rails and Fastenings.
FRANK W. SWETT, MANUFACTURER OF BAND SAWS, CHICAGO, ILL. Every Blade Warranted.
WE BUY OLD IRON AND STEEL RAILS, (for reworking or relaying.) WRITE US.

The Sawyer-Man Electric Co.

(Leased to the WESTINGHOUSE ELECTRIC COMPANY)

510 W. 23d Street, New York.

INCANDESCENT ELECTRIC LAMPS,
Supplies for Electric Lighting,
Electric and Combination Fixtures.

CORRESPONDENCE WITH DEALERS INVITED.

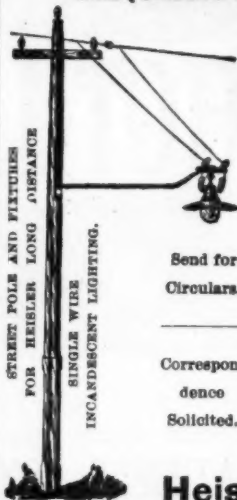
Daft Electric Light Company,
115 BROADWAY, N. Y.

ELECTRIC RAILWAYS,
POWER STATIONS,
Stationary Electric Motors.

PLEASE MENTION MANUFACTURERS' RECORD.

THE HEISLER PATENT Long Distance Incandescent Electric Light System.

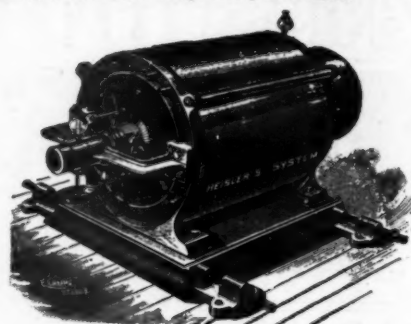
UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.



Send for
Circulars.

Correspon-
dence
Solicited.

SPECIALLY ADAPTED FOR STREET, COMMERCIAL AND DOMESTIC ILLUMINATION FROM CENTRAL STATIONS. Plant may be located where power can be secured cheapest, even if miles distant from the lighting. Safety, Reliability, and Financial Success fully demonstrated. Plan of Wiring the Simplest, Cheapest and most Efficient. Strictly Series. Noted for the Brilliance and Beauty of the Light. Lamps, 10 to 100 Candle Power; Long Life without Blackening. Dynamo Self-contained and perfectly Automatic.



Heisler Electric Light Company,

809 to 817 South Seventh Street, ST. LOUIS, MO.

"Awarded the Highest Distinction—a Gold Medal—by the International Jury at the Universal Exposition, Paris, 1889."

Electric Power.

A Monthly Journal devoted to the interests of the **Electric Railway** and the **Transmission of Power by Electricity** for Industrial purposes.

The only Journal in the world devoted exclusively to transmission of power.

Its circulation embraces Electrical, Mechanical, Mining, Hydraulic and Civil Engineers, and Officers and Employees of Street and Electrical Railways. Send for sample copy.

SUBSCRIPTION, \$3.00 PER ANNUM.

ELECTRIC POWER PUBLISHING CO.

133 Nassau, Cor. Beekman St., New York.

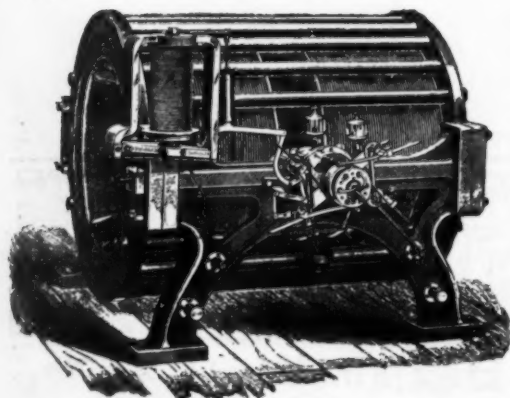
Subscribe to the Manufacturers' Record.

THE · THOMSON-HOUSTON · SYSTEM

❖ Electric Arc Lighting. ❖



DYNAMOS AUTOMATIC IN ACTION,



ARC DYNAMO.

Simple in Construction, Durable and Efficient.

OPERATING FROM 3 TO 50 ARC LAMPS OF 1,200 OR 2,000 CANDLE POWER.

ARC LAMPS,

Single and Double, Plain and Ornamental.

The Thomson-Houston lamps burn with entire freedom from hissing, are perfectly SELF-ADJUSTING and do not require expert attention.

More than 60,000 Arc Lamps in daily use.

The THOMSON-HOUSTON ELECTRIC CO.

620 Atlantic Avenue, BOSTON, MASS.

WALL AND LOYD STREETS, ATLANTA, GA.

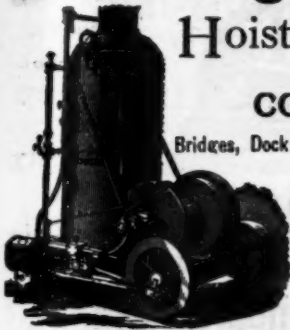
148 Michigan Avenue, CHICAGO, ILL.

215 West Fourth Street, Cincinnati, O.

RIEHLE'S TESTING MACHINES & SCALES.

RIEHLE BROS., Store, 18 Market St. Works 9th above Master, Philadelphia. New York Store, 25 Liberty St.

Hoisting Engines for Mines, Furnace & Factory



Hoisting • Machinery

FOR CONTRACTORS,

Bridges, Dock Building, Pile Driving and Excavating.

300 STYLES AND SIZES.
OVER 5,000 IN USE.

AGENTS:
MORTON, REED & CO., Baltimore, Md.
MILNER & KETTIG, Birmingham, Ala.
MOSES P. JOHNSON, St. Louis, Mo.

• MINE •

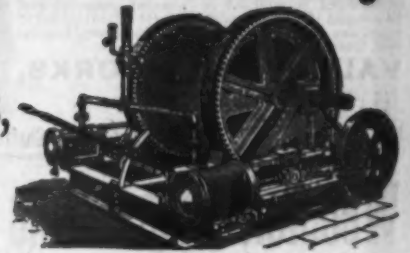
AND

FURNACE HOISTS,

Horizontal Engines

FOR MANUFACTURING.

New Catalogue for 1889.



LIDGERWOOD MFG. CO.

66 LIBERTY STREET, NEW YORK.
34 & 36 WEST MONROE STREET, CHICAGO.
197 TO 203 CONGRESS STREET, BOSTON.

BUCKRUS FOUNDRY & MANUFACTURING CO.
BUCKRUS' PATENT
STEAM EXCAVATING MACHINERY
FOR EVERY PURPOSE, WRECKING CARS, ETC.

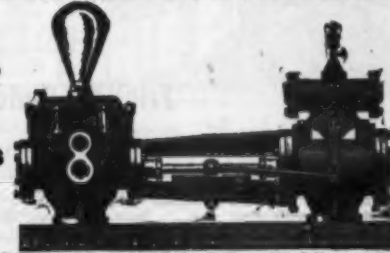
H. A. ROGERS, 19 John Street,
NEW YORK.
RAILWAY
AND
Machinists' Supplies.
SOLE AGENTS IN THE U. S. FOR
Moncrieff's Scotch Gauge Glasses.



GENERAL AGENT CELEBRATED TANITE EMERY WHEELS.

The M. T. DAVIDSON STEAM PUMP.


Simple,
EFFICIENT,
Reliable,
FOR ALL
PURPOSES
AND
DUTIES.



MADE IN
ALL SIZES,
VERTICAL
SINGLE OR
Duplex.
ALSO
COMPOUND
Pumping
ENGINES.

DAVIDSON STEAM PUMP CO., 77 Liberty St., NEW YORK.

THE IMPROVED FISHKILL CORLISS ENGINE
BUILT BY THE
FISHKILL LANDING MACHINE CO.
FISHKILL HUDSON
N.Y.



AMERICAN SUPPLY COMPANY,

Formerly Myron Fish & Co., of Valley Falls, R. I., and Kendrick Loom Harness Co., of Providence, R. I.

—MANUFACTURERS OF—

LOOM HARNESS AND REEDS.

Oak Belting, Lace and Picker Leather, and Dealers in Supplies for Cotton, Woolen and Silk Mills.

Agents for Joseph Neone's Sons'
Roller, Slasher & Clearing Cloths.

—Agents for—
RODDICK'S PATENT IMPROVED OIL CANS.
Calf, Sheep and Lamb Roller Skins, and Roll Covers' Tools.



WE HAVE
Unequalled Facilities for Furnishing
Shuttles & Heddle Frames,
WIRE HEDDLES & WIRE GOODS
Of all Descriptions.

—Special Notice to Worsted and Silk Mills.—

We Manufacture both Worsted and Cotton Machine-Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a Full Line of Supplies for Jacquard Looms.

Office and Salesrooms, 10 Exchange Place, Providence, R. I.

—FACTORIES:—
PROVIDENCE and VALLEY FALLS, R. I.

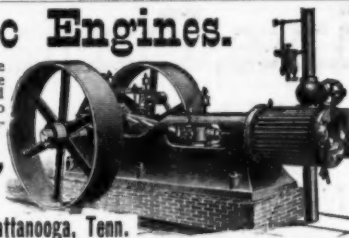
A. D. LOCKWOOD, Pres. JOHN KENDRICK, Vice-Pres. MYRON FISH, Treas. NANCY A. CARTER, Sec. ROBERT S. KENDRICK, Gen'l Agent.

Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

VALLEY IRON WORKS,
MANUFACTURERS,
WILLIAMSPORT, PENNA.

WM. H. BRUNDIGE & CO., Sales Agents, Chattanooga, Tenn.



Webster, Camp & Lane Machine Company,

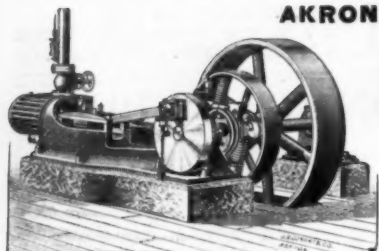
AKRON, OHIO.

BUILDERS OF

AUTOMATIC ENGINES,

— BOILERS, —

Friction Clutch Pulleys,



Write for Circulars.

COMPLETE POWER PLANTS.

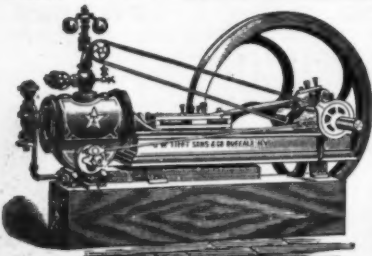
— FOR THE LOWEST-PRICED FIRST-CLASS —
ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes 5 to 50 H. P., both Stationary and Semi-Portable.

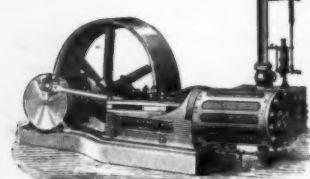
A few good Second-Hand Engines and Boilers are for sale at an astonishingly low figure. Must be sold to make room for stock. Correspondence solicited. Mention this paper.



ALEX. K. RARIG & CO.

COLUMBUS OHIO.

MANUFACTURERS OF
Blast Furnace Plants,
AUTOMATIC CUT-OFF ENGINES,
HOISTING ENGINES,
Boilers, Boiler Plate Punches,
ROLLS AND SHEARS,
Clay-Working Machinery,
Steam Sewer Pipe Presses.

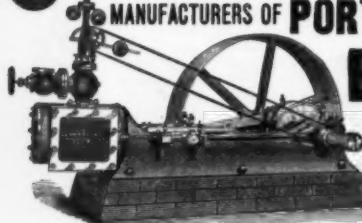


Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfits for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.



SKINNER ENGINE CO., ERIE, PA.

MANUFACTURERS OF PORTABLE AND STATIONARY
ENGINES AND BOILERS



OVER 3400 IN USE.

SEND FOR CATALOGUE.

MORTON, REED & CO., AGENTS, BALTIMORE, MD.

NEW YORK and NEW ENGLAND OFFICE, C. R. VINCENT & CO., 15 Cortlandt St., N. Y.

The Beckett Foundry & Machine Co.

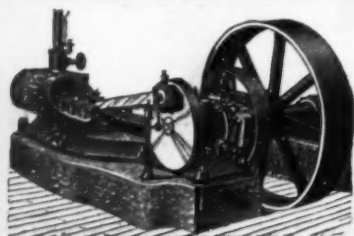
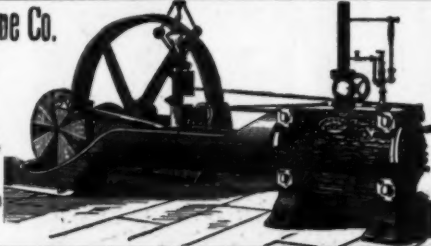
ARLINGTON, N. J.

MANUFACTURERS OF THE

"Munzer" Corliss Engine.

Also Plain Slide Valve Engines,
Mining and Milling Machinery and
Mine Hoists.

SEND FOR CATALOGUE.



Russell & Co.

MASSILLON, OHIO.

BUILDERS OF

Automatic Engines, BOILERS, ETC.

Complete Power Plants Furnished.

SOUTHERN AGENCIES:
CAMPBELL, ZELL & CO., Baltimore, Md.
RUSSELL & CO., 75 S. Forsythe St., Atlanta, Ga.

Southwark Foundry & Machine Company

Philadelphia, Penna.

BOILERS.

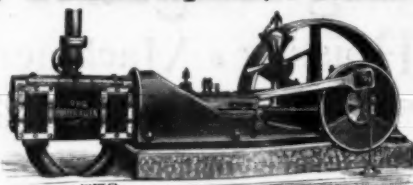
TANKS.

STEAM

HAMMERS.

HEAVY

CASTINGS.



BLOWING AND

REVERSING

ENGINES.

CENTRIFUGAL

PUMPS.

STEAM PUMPS.

SOLE MAKERS OF

PORTER-ALLEN AUTOMATIC ENGINE.

HIGH ECONOMY.

DURABILITY.

CLOSE REGULATION

ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders,

—WAYNESBORO, PA.—

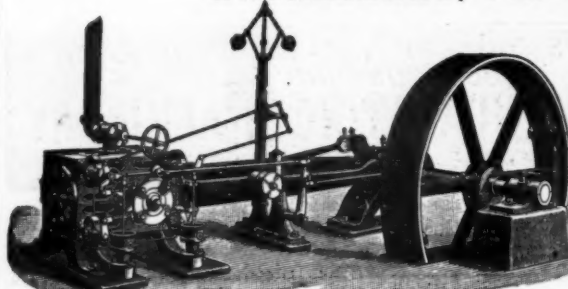
40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.

Send for Corliss Circular.

Ice-Making and Refrigerating Machinery.

Send or 1-2 Machine Circular.

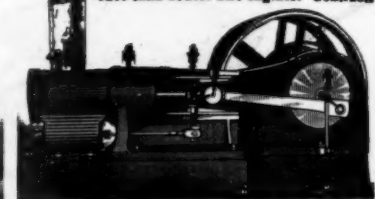


Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

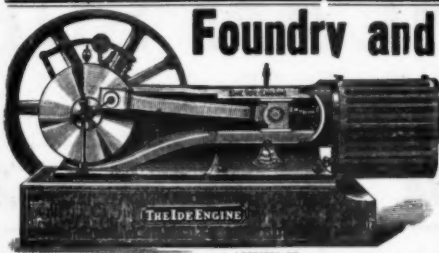
BECK AUTOMATIC ENGINE.

for Electric Light, Flour, Cotton, Woolen and Rolling Mill Service and all other purposes requiring power. Economical in Steam Consumption. Does not race. Speed constant under varying loads and pressure of steam. Simple.

Sturdy in construction. Requires no more space than double disc engines. Contracts



taken for complete steam plants, including boilers and all connections, masonry and erection. All work guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary Engines. Boilers of all styles, and Saw Mills. Address **TAYLOR MATHESON CO., Chambersburg, Pa.**



Foundry and Machine Dept.

Harrisburg Car Manufacturing Co.
HARRISBURG, PA.

Manufacturers of the **Idle Automatic Engine**, Compound and Standard patterns. Also builders of boilers and complete power plants. New York Office, Messrs. Fleming & Kimball, 17 Day Street. New England Office, Messrs. John Post, Jr. & Co., 70 Kilby Street, Boston. Baltimore Office, Messrs. Thomas K. Carey & Bro., 25 Light Street, Baltimore.

ESTABLISHED 1864. INCORPORATED 1888.
WM. A. HARRIS STEAM ENGINE CO.
(Successors to Wm. A. Harris.) PROVIDENCE, R. I.

Builders of HARRIS-CORLISS ENGINES,

FROM 20 TO 2,000 HORSE POWER.

These Engines are carefully built of best materials and in different forms, such as Non-Condensing, condensing and Compound Condensing. Send for copy of **ENGINEERS AND STEAM USERS' MANUAL**, by J. V. Hill, M. E. \$1.25. Mention this paper and send for catalogue. **WM. A. HARRIS, Pres. & Treas.**

The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents.

C. D. MacDOUGALL, Pres. & Treas. A. E. SLOCUM, Vice-Prest. E. B. MOSHER, Secty.

The BIRDSALL COMPANY,

—OF AUBURN, N. Y.—

Stationary, Automatic, Portable and Traction Engines, Return, Tubular, Locomotive and Steam Heating Boilers, Radiators, Portable Saw and Grist Mills, Shingle Machines, Threshers, Fruit Evaporators, etc., etc.

Branch House, 203 North Street, Moon Building, Baltimore, Md.

FRED. I. MOSHER, Manager.

JARVIS Patent FURNACE

For Setting Steam Boilers.

Economy of Fuel, with increased capacity of Steam Power. Like the **Siemens Process of Making Steel**, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.



JARVIS ENGINEERING CO.

J. N. PRATT, Treas. and Gen'l Manager.
61 Oliver Street, BOSTON, MASS.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Ala.
J. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoca and Battersea Mfg. Co's., Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond Va.
Sibley Mills, Augusta, Ga.
Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus, Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vancluse Mill, Graniteville, S. C.
Charleston Electric Light Co., Charleston, S. C.

COMPOUND. CONDENSING OR NON-CONDENSING.
16 Sizes, 5 to 500 H. P. Not yet equalled by any form of Engine for HIGH FUEL DUTY AND SIMPLICITY.

STANDARD. 13 Sizes in Stock, 5 to 250 H. P.
3,000 in use in all parts of the Civilized World.

JUNIOR. 6 Sizes in Stock, 5 to 50 H. P.
AN AUTOMATIC ENGINE CHEAPER THAN A SLIDE VALVE.
Well Built. Economical. Reliable. Over 300 sold the first year.

All the above built strictly to Gauge with Interchangeable Parts.
Repairs Carried in Stock. Send for Illustrated Catalogues.

WESTINGHOUSE ENGINES

The Westinghouse Machine Co.
PITTSBURGH, PA. U.S.A.

SELLING DEPARTMENT IN THE UNITED STATES.

NEW YORK, 17 Cortlandt Street, Westinghouse, Church, Kerr & Co.
BOSTON, Hathaway Building, Westinghouse Building, 156, 158 Lake Street, 608 Chestnut St., M. R. Muckel, Jr. & Co.
PITTSBURGH, 312 Union Avenue, Fairbanks & Co.
CHICAGO, 1830 Seventeenth Street, Geo. M. Dilley & Sons.
PHILADELPHIA, 1619 Capitol Avenue, F. C. Ayer.
ST. LOUIS, 220 S. Main St., Utah & Montana Machinery Co.
KANSAS CITY, E. Granite St., Parks & Lacy Co.
DENVER, 21 and 23 Fremont St., Parks & Lacy Co.
PORTLAND, OR., 33, 35 N. Front St., The D. A. Tompkins Co.
CHARLOTTE, N. C., 36 College St., Keating Imp. & Mch. Co.
ATLANTA, GA., 45 S. Prior St., C. E. James & Co.
DALLAS, TEX.,
CHATTANOOGA, TENN.

J. T. FOLEY & CO.
Atlas Boilers and Engines.
NASHVILLE, TENN.

ENGINES AND BOILERS



FROM 2 TO 400 HORSE-POWER.

The strongest, most compact and best built outfits on the market.

Wood-working and Iron-working Machines a Specialty.

Send for Catalogue B.

THE GLOBE MACHINE CO.

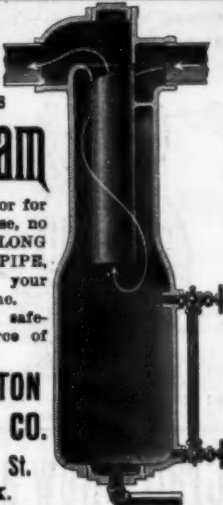
35 Broadway, New York.

The Stratton Separator
DELIVERS
Dry Steam

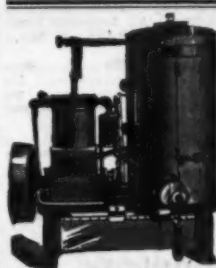
To your engine or for any other purpose, no matter HOW LONG YOUR STEAM PIPE, or how much your Boiler may Prime. An absolute safeguard. A source of economy.

THE STRATTON SEPARATOR CO.

32 Cortlandt St.
NEW YORK.



CLEVELAND AND HARDWICK ENGINE WORKS
MANUFACTURERS OF STEAM ENGINES AND BOILERS.
ERIE, PENN.



Acme Automatic Engine,
With BRYANT'S Patent Safety Boiler.

Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 125° to 250° fire test. No dust, ash, or smoke. No Skilled Engineer required. "Brake" Tests show that 3 1/2 gals. fuel will deliver a full H. P. on belt for 20 hours, in the case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works,
BUILDERS, ROCHESTER, N. Y.

SEND FOR CATALOGUE.

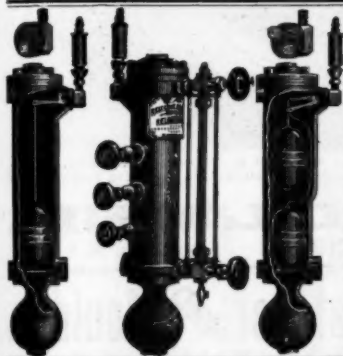
PAYNE HIGH-SPEED CORLISS ENGINE.

Shaft Governor Combined with Corliss Wrist-Plate.
Economy of Fuel and Regulation equal to anything in use.



B. W. Payne & Sons,

ELMIRA, N. Y.
45 Dey Street, New York.
10 S. Canal St., Chicago, Ill.



BEFORE SHUTTING DOWN FOR REPAIRS or putting in any new boilers, investigate the merits of the

RELIANCE Safety Water Columns

Many large corporations have found it profitable to discard the common appliances and adopt these safeguards. Of course you need not do so unless you wish to, but it is worth your time to investigate. There is always economy in safety, and any safety appliance is worth the time it takes to examine it. Send for illustrated price-list.

RELIANCE GAUGE COMPANY,
Argyle Building, Cleveland, Ohio.



THE CURTIS BALANCED STEAM TRAP.

MANUFACTURED BY
THE CURTIS REGULATOR CO.
160 Beverly St., Boston, Mass.

HAS balanced Valve, therefore works equally well under HIGH or LOW pressure; discharges full area of pipe; has hard composition float, vented to the atmosphere, and is warranted not to collapse or fill.

GENERAL AGENCIES.
NEW YORK, 109 Liberty st.
PHILADELPHIA, 2035 North Front st.
MINNEAPOLIS, 210 South Third st.
CHICAGO, 218 Lake st.
ST. LOUIS, 511 Walnut st.
NEW ORLEANS, 21 Union st.

SEND FOR THIS BOOK FREE ON APPLICATION.

THE BABCOCK & WILCOX CO.
107 HOPE ST.
GLASGOW, SCOTLAND.

30 CORTLANDT ST. N.Y.

BRANCH OFFICES:
ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y.
ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y.
ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y. ALBANY, N.Y.

MANUFACTORIES IN UNITED STATES, SCOTLAND, FRANCE, GERMANY & AUSTRIA.

Awarded the Grand Prize at late Paris Exposition.

THE CELEBRATED UNION INJECTOR.
Only One Lever to Operate.
The Eagle Ejector.
The Best Jet Pump Made.

Felthousen's Cylinder Oil Pump; Improved Gauge Cocks; Adjustable Spring Flue Scraper; Improved Ratchet Drills; Combination Pipe and Nut Wrench; Compression Grease Cups.
Buffalo Glass Oil Cups & Lubricators
Pop Valves; Steam and Water Gauges; Single Bell and Chime Steam Whistles; Piston and Valve Rod Packing; Supplies all kinds for Engines and Boilers.
FELTHOUSEN & SHERWOOD,
Sole Manufacturers, BUFFALO, N. Y.

The Corey Grate Bar.

This grate consists of single bars 1/2 inch thick at top and 1/4 inch at bottom, sides being concaved, and gives 1/2 inch air space, with only 1/2 inch iron to hold the heat. Bars are mounted on vibrating bearings, insuring by its operation a clean fire and economy of coal.

— Manufactured by —

Phenix Iron Foundry, Providence, R. I.

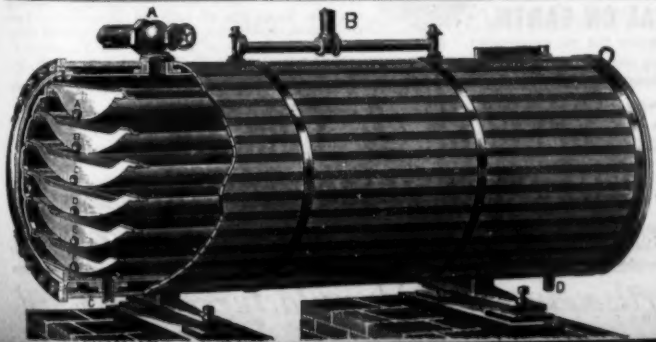
The Hoppes Live Steam Feed-Water Purifier
SOLD ON TRIAL.

We are prepared to furnish Estimates for Purifiers and Heaters, set up complete, especially on Large Steam Plants. Guaranteed to Keep the Boilers Free from Scale.

We also manufacture an EXHAUST STEAM HEATER superior to all others.

SEND FOR CATALOGUE G.

THE HOPPES MFG. CO., SPRINGFIELD, O.



The Largest Dry-Kiln Plant in the World.

MERIT WINS.



"THE STANDARD" KILN has points of MERIT not possessed by any other make. Solely for this reason a contract for TWENTY KILNS, with a daily drying capacity of 200,000 feet (13-85'x17'x9' and 7-125'x17'x9') has been awarded to us by the KENTUCKY UNION LAND CO., Clay City, Ky.

**NEW AND IMPROVED APPARATUS,
Steel Blower, Steel Pipe, Steel Jacket.**

Write for prices before contracting elsewhere.

The Standard Dry Kiln Co.

PATENTERS AND SOLE MANUFACTURERS,

1224 to 1230 West Main Street, LOUISVILLE, KY.



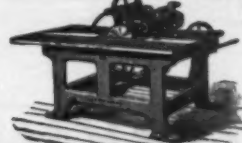
No. 3 1/2-Pacific Planer and Matcher.



No. 4-Smoothing Planer.



Horizontal Borer.



No. 2-Self-Feed Rip Saw.



No. 3-Molding Machine.



No. 2-Fret Scroll Saw.

W. H. DOANE, Pres't.

J. A. FAY & CO.

D. L. LYON, Sec'y.

CINCINNATI, OHIO.

Manufacturers of
—PATENT—

Improved Wood-Working Machinery

OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.



No. 2-Band Saw.

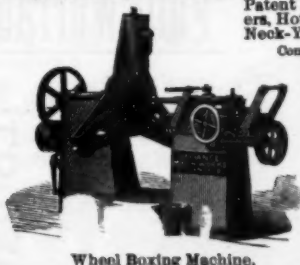
"AWARDED SPECIAL GRAND PRIZE AT THE GREAT PARIS EXPOSITION OF 1889." Every Machine Tested and Warranted. Send for Circulars and Estimates.

DEFIANCE MACHINE WORKS, Defiance, Ohio. ESTABLISHED 1850.

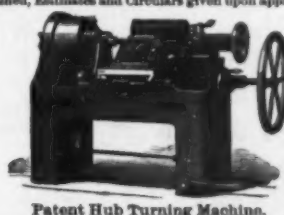
Manufacturers of HUB, SPOKE, WHEEL, BENDING, WAGON AND CARRIAGE MACHINERY,

Patent Plow-Handle Benders, Shapers, Cut-Off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines.
Complete Outfits Furnished, Estimates and Circulars given upon application.

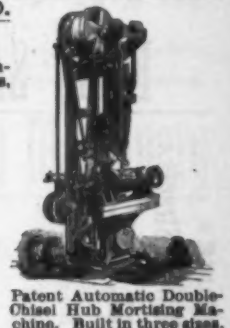
Patent Automatic Combined Spoke Turning and Squaring Machine for cutting spokes turning. Capacity 2,500 per day.



Wheel Boxing Machine.



Patent Hub Turning Machine.



Patent Automatic Double-Chisel Hub Mortising Machine. Built in three sizes.



Wood Working Machinery



COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

Send for catalogue and visit our extensive
warerooms if possible.

925 MARKET STREET.

PHILADA, PA., U. S. A.

Established 1874.

MANUFACTURERS OF
Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Bitstock Drills,
Straight Fluted Drills,
Machine Bit Drills

Cleveland Twist Drill Co.



Send for Catalogue.

OFFICES—

Cor. of Lake & Kirtland Sts., Cleveland, O.
101 Chambers Street, New York.

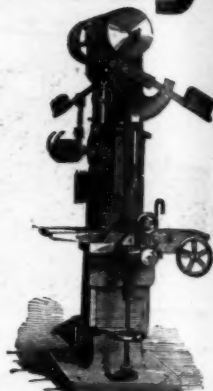
Write for Discounts.

MANUFACTURERS OF
Self-feeding Reamers,
Expanding Reamers,
Shell Reamers,
Slut-bolt Taps,
Taper Reamers

FREDERICK DANNER, Supt.

The Largest and Most Complete Line in the United States is Manufactured by

228 TO 248 W. FRONT STREET, CINCINNATI, OHIO, U. S. A.



No. 4 Mortiser

PULLEYS, SHAFTING, &C.



SELF-OILING HANGERS, latest designs, correct proportions. Large stock on hand for immediate shipment. **Improved Clamp Couplings**, fastened or loosened by twisting a single screw—**GIANT GRIP**. My catalogue "C" contains useful information regarding speed, power, &c. Send for it. **Improved Twist Machines**—One set of cutters will make 800 different kinds of twist. **Corner Block Machines**—25 perfect blocks a minute. No sandpapering. Worked by a boy. Make money from your waste lumber. **Bung Machines**—120,000 perfect bungs cut and compressed in 10 hours. Only one operator. These and many more money-making machines described in my catalogue "A." Sent free to those who name this paper.

Lathes for the Million.

P. PRYIBIL, 518 W. 41st Street, N. Y. City.

Established 1840.

HENRY DISSTON & SONS.

Established 1840.

Incorporated.

Keystone Saw, Tool, Steel *and* File Works,

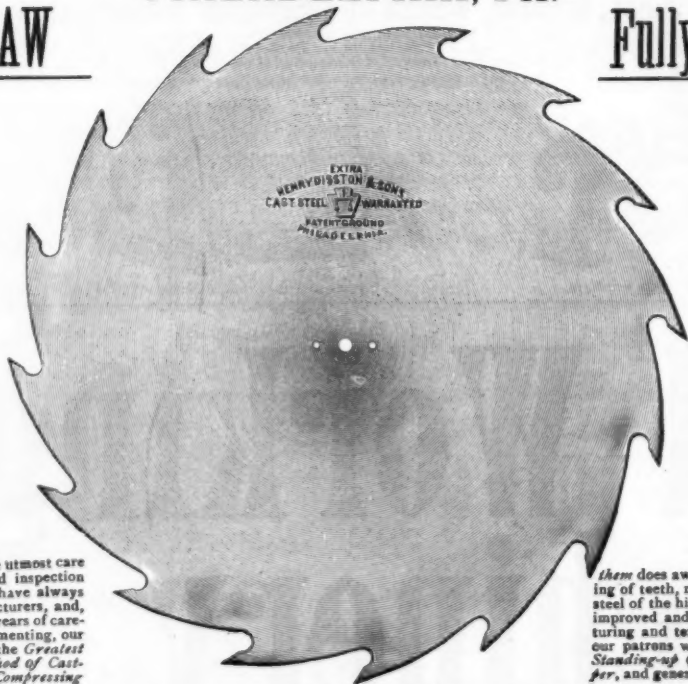
PHILADELPHIA, PA.

Every SAW

Fully Warranted.

BRANCH HOUSE:
Cor. Randolph and Market Streets,
CHICAGO, ILL.

**Send for Price List and Discount Sheet and
New Illustrated Edition of Files.**



Send for New edition of Lumberman's Handbook and Sawyer's Pocket Edition.

BRANCH HOUSE:
923 West Main Street,
LOUISVILLE, KY.

WE have always taken the utmost care in the manufacture and inspection of our steel and saws, have always headed the list of saw manufacturers, and, we are happy to say, that after years of careful study and expensive experimenting, our efforts have been crowned with the *Greatest Success of the Age, as our Method of Casting Steel Ingots and Process of Compressing*

What does away with the splitting and spalling of teeth, makes a hard, tough and elastic steel of the highest quality, which, with our improved and patented process of manufacturing and tempering enables us to furnish our patrons with saws that for *Toughness, Standing-up Quality, Uniformity of Temper*, and general superiority,

HAVE NEVER BEEN EQUALLED.

The Caldwell Patent Spiral Steel Conveyor

MADE OF STEEL, DOUBLE BOLTED, DOUBLE COLLARED AND EXTRA STRONG COUPLINGS.

Specially Adapted to use in Handling Cotton Seed and all its Products, Fertilizers and Phosphates.



—DEALER IN—
Mill and Grain Elevator Supplies.

H. W. CALDWELL.

**181 and 188 West Washington Street,
CHICAGO, ILLINOIS.**

EMPLOYERS WILL PREVENT LOSS
BY ACCIDENTS TO
WORKMEN BY INSURING WITH

Employers' Liability Assurance Corporation.

Agent, G. W. S. HALL, Baltimore
Firms with pay rolls of
over Sixty Million Dollars now protected

T.K. EARLE MFG. CO.
 PATENT
NEEDLE POINT
CARD CLOTHING.
 AND ALL OTHER VARIETIES
 WORCESTER, MASS.

**The Osborn
COTTON GIN
Lubricator.**

PATENTED.

Consists in the application of oil to cotton being ginned. The quality of the cotton is thereby improved. The friction of the ginning operation is reduced. There is less breakage of the fibre, and consequently a greater average length of staple. The gin saws are prevented from gumming, gin cutting is obviated and the liability of fire from friction is diminished. The above are some of the advantages resulting from the use of this improvement. Territory for sale. Agents wanted. Apply to

C. H. MERRY,
 YAZOO CITY, MISS.

The Fall River Spool & Bobbin Co.
 OF FALL RIVER, MASS.
 Manufacture every variety of
SPOOLS AND BOBBINS.

Bobbins, Spools, Shuttles,
 AND ALL MANUFACTURERS' WOOD SUPPLIES
 AND SPECIALTIES IN MILL TRADE.

The GREENE & WOOD MFG. CO.
 NEW BEDFORD, MASS.



J. A. V. Smith
 MANCHESTER, N. H.
 Has made more

Steel Fliers

than the aggregate of all other flier makers.

Has obtained more patents on Fliers than any other party.

Can make Fliers with the use of his patents far superior to any other make.

He incorporates into every Flier one or more improvements patented.

Has the best facilities. Most skilled workmen.

Can make a Flier cheaper. Guarantees satisfaction.

TRY HIM.

THE GROSSELIN-MOSER PATENT
Universal Raising or Napping Machine
 FOR ALL KINDS OF COTTON OR WOOLEN FABRICS.



THE advantages obtained by this Machine, which is used by the best Manufacturers and Finishers in Europe, are that the raising is FAR MORE EVEN and FULLER at the bottom, so that the goods raised on it feel MUCH THICKER and SOFTER than can be obtained by any other Card-Raising Machine or Teaze Gig. This result being obtained with less waste of material (locks), and AN ENORMOUS SAVING IN TIME, LABOR AND POWER.

One of these Patent Raising Machines will do the work of six Card-Raising Machines of any other patentee, or eight Teaze Gigs, and by means of the differential motion raises, WITH ONE HAND THE SAME CARD AND WITH EQUAL FACILITY, THE

HEAVIEST as well as the LIGHTEST and SOFTEST Fabrics. The Machine raises goods either dry or wet, and also after bleaching; it is equally well adapted for backing as for face goods; it raises equally well the thinnest Shirting as the heaviest Cloth.

It is patented all over Europe and in the United States of America, and is now in use for raising:

COTTONS: Shirtings, Calicoes, Twills, Imperials, Lambkins, Velvets, Cords, Molekins, Fustians, Flannelettes, Trouserings, Blankets, Quiltings, Dometts.

MIXED GOODS: Angola Flannels, Blankets, Rugs, Winseys, Unions, Shawls.

WOOLENS: Flannels, Beavers, Blankets, Shirtings and Fine Dress Goods.

The Machine takes very little power, a 3-inch strap will drive it under any circumstances. As everything on it is self-acting, it does not require an experienced man to work it.

CARD CLOTHING SUPPLIED.

Refer by permission to Robert Dobson & Co., Pittsfield, Me.; R. S. Frost & Co., Boston and New York; Hale & Frost Mfg. Co., Hinesdale, N. H.; G. T. Murdoch & Son, New Boston, Ct.; Washington Mills, Lawrence, Mass. Full particulars on application to

CHAS. HEAP,

SOLE PROPRIETOR

IN THE
UNITED STATES.

HERBERT H. HEAP,

AGENT,

Room 92, 620 ATLANTIC AVE.
 BOSTON, MASS.

One of these Machines on exhibition and in operation within 15 minutes of the postoffice, Boston. Manufacturers visiting the city can see sample pieces of their own goods napped.

EASTON & BURNHAM, PAWTUCKET, R. I.,
SPINDLE MAKERS AND MACHINISTS.
 All kinds of Spindles Used in the Manufacture of COTTON, WOOL and SILK.
Builders of Improved Upright Spoolers.
 TO SPOOL FROM COP, SKEIN, OR BOBBIN.

W. A. RICHARDSON & CO.
 MANUFACTURERS OF STANDARD MEASURING
CLOTH FOLDERS
 For Print and Dye Works, Bleacheries, Cotton, Gingham, Delaine Mills, Etc.
 P. O. Box 804. **WORCESTER, MASS.**

ROMPTON 1888 WOOL COMBS.
ROMPTON LOOM WORKS.
 WORCESTER, MASS. COTTON, WOOLEN, SILK.
 TAPE & CARPET LOOMS.

Cotton and Woolen Mill Supplies.

WATERS & GARLAND,

433 Main Street, **LOUISVILLE, KY.**

Bobbins, Shuttles, Card Clothing, Roller Cloth, Dyestuffs, Sheep, Calf and Lamb Roller Skins, Ring Travelers, Reeds, Heddles, Banding, Tape, Lace Leather, Belting, Oils, etc.

Write for Discounts.

"SLASHMENE SIZE"

Is becoming universally adopted. Every manufacturing firm who tries it continues its use. It gives a beautiful, Soft Feel, Good Weaving, good appearance to the cloth. Strengthens the Warp Threads, and weaves equally as well in Hot, Cold, Dry or Moist Atmosphere. The Only Size that does away with over half the steam in weaving rooms in Frosty weather. No oil or tallow required. Perfectly free from mildew, and only a small quantity required to starch. Trial barrels sent on application; if not satisfactory will not be charged and freight paid both ways. Sizes made for adding weight. Price 5 cents per pound. It will pay you to try it. Extensively used in Southern States. CORRESPONDENCE SOLICITED.

EASTWOOD & CO., Fall River, Mass.

Dyeing, Drying and Finishing Machinery

FOR COTTON WARPS AND PIECE GOODS.

H. W. BUTTERWORTH & SONS,
 PHILADELPHIA, PA.

★ **AMERICAN COTTON MACHINERY.** ★

PETTEE MACHINE WORKS,
 NEWTON UPPER FALLS, MASS.

MAKE A SPECIALTY OF

REVOLVING FLAT CARDS, Latest Pattern.
COMBINATION CARDS, " "

Arranged with Collars or for Railway Heads.

★ **LOW PRICES.** ★

CORRESPONDENCE INVITED.

PLANS OF CARD ROOMS FURNISHED.

VAN WINKLE GIN & MACHINERY CO.
 ATLANTA, GA., and DALLAS, TEX.

MANUFACTURERS OF

Cotton Gins, Feeders

Condensers and Presses,

COTTON SEED OIL MILLS,

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.



THE DEANE STEAM PUMP CO.

Steam and Power Pumps
For all Purposes.

HOLYOKE, MASS.

Morton, Reed & Co.
AGENTS, BALTIMORE, MD.

Water Works Engines
A SPECIALTY.

NEW YORK. BOSTON. CHICAGO.
PHILADELPHIA. ST. LOUIS.

Birmingham Office and Warehouses:
No. 6 SOUTH 20th STREET.

Send for Illustrated Catalogue.

WORTHINGTON STEAM PUMPS

SOUTHERN SELLING AGENTS:

THOS. C. BASSHOR & CO., Baltimore, Md.
KENTUCKY MACHINERY CO., Louisville, Ky.
W. H. PERRY'S MACHINE WORKS, Nashville, Tenn.
LIVERMORE FDRY. & MACH. CO., Memphis, Tenn.
WALTER T. FORBES, Atlanta, Ga.

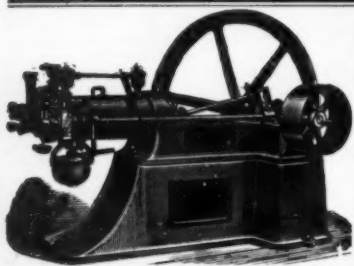
SEND FOR ILLUSTRATED CATALOGUE

HENRY R. WORTHINGTON
NEW YORK.

SOUTHERN SELLING AGENTS:

SMITH & COURTNEY, Richmond, Va.
MECKLENBURG IRON WORKS, Charlotte, N. C.
E. V. WHITE & CO., Norfolk, Va.
M. SCHWARTZ, New Orleans, La.
F. W. HEITMANN & CO., Houston, Texas.

Boston Philadelphia Chicago St. Louis St. Paul San Francisco



Over 18,000 in Use. **Otto Gas Engine** 20 to 70 per cent. less Gas consumption than ANY OTHER ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

Guaranteed to consume 25 to 75 Per Cent. less Gas than any other Gas Engine doing the same work.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies.

UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-Horse power.
Branch Office, 151 Monroe St., Chicago, Ill. OTTO GAS ENGINE WORKS, Schleicher, Schumm & Co. 33d & WALNUT STS., PHILADELPHIA.

SOUTHERN MILLS SHOULD NOT HAMPER

their natural advantages by the use of inferior machinery. Use none but the RABBETH SPINDLE. We make the highest grade of Warping, Spooling and Twisting Machinery on the market. Keep note of the improvements that we are constantly introducing.

GEO. DRAPER & SONS, HOPEDALE, MASS.



CLEVELAND CITY FORGE & IRON CO. {Cleveland, Ohio.} The Best & Cheapest Pressed Wrought Iron Turnbuckles.

Shafting, Hangers and Pulleys {For Mills and Factories of every description.

Flour and Corn Mill Outfits Complete. {Highest Product Guaranteed.

Over 1,000 of our Roller Mills in use.
Over 8,000 of our Portable Grist Mills in use.

We offer a Complete Mill and Sheller for \$115.00

Adapted to any kind of power. A boy can run and keep it in order.

NORDYKE & MARMON COMPANY, INDIANAPOLIS, IND.

Correspondence Solicited.

Write for pamphlet, "Mills and Milling."



For SUCTION, WATER, STEAM, GAS, AIR, ACIDS and for every purpose to which a Hose can be applied.

RESISTANCE to Great Pressure; Unobstructed Flow of Water; Increased Flexibility and Perfect Protection are some of its Advantages.

WE GUARANTEE every foot sold to withstand constant service for such longer period as to render its actual cost much less in the end. Every wind of the wire can be cut without loosening or uncoiling.

The making, vending or use of any SERVICEABLE ARMORED WIRE-BOUND HOSE not of our manufacture is an infringement on one or more of our patents, and any violation will meet with instant prosecution. Brass plates mark each coil and admonish infringers, whether evil-minded or ignorant.

WATERBURY RUBBER COMPANY,

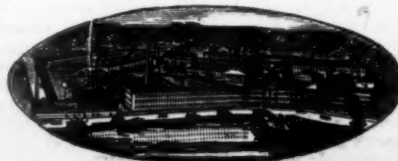
Sole Manufacturers and Proprietors,

49 WARREN STREET, NEW YORK.

WASHBURN & MOEN MFG. CO., WORCESTER, MASS.

MAKERS OF IRON AND STEEL.

MANUFACTURERS OF



Iron, Steel and Copper Wire, Wire Rope, Barbed Wire. Chicago Warehouse, 107 Lake St. New York Warehouse, 16 Cliff St.

Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.

R. H. EDMONDS, EDITOR.
WM. H. EDMONDS, BUSINESS MANAGER.

OFFICE,
COR. EXCHANGE PLACE AND COMMERCE STREET,
BALTIMORE.

NEW YORK OFFICE, - - - 132 NASSAU STREET.

THOMAS P. GRASTY, Southern Staff Correspondent.
Headquarters at FLORENCE, ALA.

SUBSCRIPTION, - - - - \$4.00 a Year.
To Foreign Countries, - - - 6.50 a Year.

BALTIMORE, NOVEMBER 30, 1889.

Do you want to attract the attention of every banker and every loan and investment company in the United States?

Have you mineral or timber properties for sale?

Are you interested in the development of any town enterprise?

Are new industries and new capital desired in your section?

Have you any good openings to offer capitalists where profitable investments can be made?

If so, advertise in the "Special Bankers' Edition" of the MANUFACTURERS' RECORD, which will shortly be published.

A copy of this edition will be sent to every bank, national, State and private, in the United States; to loan and trust companies, insurance companies, investment agents, &c.

You never had so good a chance offered to you before to reach the entire moneyed interests of America. Now is your opportunity. If you wish to avail yourself of it you must do it promptly.

South Carolina's Showing.

The annual report of J. Q. Marshall, Secretary of State of South Carolina, just issued, shows that for the fiscal year ending October 31 the chartered enterprises in that State have a capital stock of \$4,131,000. Eighty-two corporations have been chartered, and applications have been made for charters for forty-three others. The chartered corporations have begun business, however, and are classified as follows: Seven new cotton factories, capital stock \$1,085,000; sixteen banks and banking concerns, capital \$815,000; six building and loan associations, capital \$335,000; eight land and improvement companies, capital \$465,000; thirteen cotton-seed oil mills, etc., capital \$278,000; thirteen wood and iron working establishments, capital \$750,500; two phosphate mining concerns, capital \$60,000, and fifteen miscellaneous companies, capital \$342,000. This is a most gratifying exhibit, and the record shows that the old Palmetto State is "keeping up with the procession."

Increase of Foreign Trade at Southern Ports.

It is not alone in manufacturing interests that the South is making rapid progress. With the growth in industrial matters there is also a marked growth in foreign commerce. The South is more and more turning its attention in the direction of foreign exports. Old ports are increasing their business and new seaports destined to hold a commanding position in the commerce of the country are coming to the front. The whole Southwest is bent upon the building up of one or more great ports on the gulf coast of Texas, and a private company is now vigorously at work constructing a deep-water harbor at the mouth of the Brazos river, not waiting on the tardy movement of Congress. Brunswick, Ga., is being vigorously pushed to the front, and its natural advantages justify the active work which local and New York capitalists are giving to its advancement. Far-seeing men realize that the South is to become as noted for its foreign commerce as for its manufactures, and hence these active preparations to reap the benefits of this development.

Taking the total value of the exports from Southern ports for the first ten months of 1889, as compared with the same time last year, we have:

Ports.	Ten months ended Oct. 31, 1889.	1888.
Baltimore.....	\$ 48,915,484	\$ 36,638,740
Beaufort, S. C.....	929,120	814,079
Brunswick, Ga.....	5,603,379	2,951,579
Charleston, S. C.....	9,475,090	7,510,830
Corpus Christi, Texas.....	1,985,764	1,565,149
Fernandina, Fla.....	251,735	159,462
Galveston, Texas.....	13,294,991	6,595,723
Key West, Fla.....	246,580	394,672
Mobile, Ala.....	2,565,206	2,662,712
New Orleans.....	66,666,504	54,121,217
Newports News.....	5,085,368	4,733,859
Norfolk.....	7,003,306	7,387,509
Pearl River, Miss.....	965,251	703,991
Pensacola, Fla.....	3,298,155	2,224,157
Richmond, Va.....	7,061,884	4,127,644
Saluria, Texas.....	1,096,492	1,114,347
Savannah.....	15,597,238	10,180,175
Wilmington.....	3,312,882	2,741,373
Total.....	\$193,334,229	\$146,665,227
From whole country..	636,332,533	529,644,851

The increase in the exports of the whole country for time mentioned was \$106,000,000, or 20 per cent., while for the same time the gain in the South was \$47,000,000, or 32 per cent. These figures show that Brunswick, Ga., nearly doubled its foreign commerce, going from \$2,950,000 to \$5,600,000, and Galveston doubled, showing an increase from \$6,595,000 to \$13,294,000. These were the most notable gains in the percentage of increase, though Baltimore, Savannah, Richmond, Newport News, New Orleans and other ports made a liberal increase.

COTTON MOVEMENT AND FLUCTUATIONS.—We are indebted to Messrs. Latham, Alexander & Co., bankers and cotton commission merchants, 16-18 Wall street, New York, for a copy of "Cotton Movement and Fluctuations, 1888 and 1889." This well-known annual is highly valued by the trade, and the latest issue is up to the wonted standards of fullness and accuracy.

Subscribe to the MANUFACTURERS' RECORD.
Price \$4.00 a year, or six months for \$2.00.

Chances for Manufacturers.

A review of the manufacturing enterprises in which the South has engaged since 1880, and a comparison of the list with the census statistics gathered that year, reveal facts of the highest importance to all engaged in manufactures in every part of the Union. In the first place iron, coal, marble and granite are mined or quarried in the Southern States at a minimum expense in enormous quantities, giving employment to many thousand men who formerly worked in the fields. Other thousands have left agriculture to engage in better paying work on the railroads or in the lumber camps. The amount of muscular force transferred from farming to other pursuits must soon affect the prices of field labor and compel extensive planters to contract their areas of cultivation, or else to try labor-saving machinery and to substitute for cheap brawn and muscle the well-paid employee, who has the skill and the will to handle costly farm machines without injuring them, and to see that they are cleaned and housed from the weather when not in use. That this revolution has begun already is shown by the steadily increasing Southern demand for such machines and implements as have long been employed in the Middle and Western States, where laborers were scarce and wages high. This decrease of Southern farm laborers continues week by week, and when the several lines of railroad that are to cross the coal fields of Virginia and Kentucky are finished, the opening of new lines in those two States alone will call from agriculture from twenty thousand to thirty thousand additional men.

There is another side to this subject. Every field hand transferred to other work means one less food producer, one more wage earner who must buy his provisions from the farmer. The supply of farm products must therefore be kept good by a lesser number of farmers. The cotton mills are taking from the small farms a multitude of women and children, and lessening by so many the number of agricultural workers. And so of the hundreds of other new industries of greater or minor importance.

What other outcome can there be for Southern agriculture hereafter than intensive farming on smaller tracts, the adoption of economic machines and the employment of skilled men as assistants to the proprietors?

Among the many industries organized in the South are quite a number of agricultural implement factories, but they supply but a small percentage of what are bought every season. Our shovels, spades, hoes, rakes, scythes, grindstones and many other tools come principally from the North, as well as a large proportion of bulkier and more costly machines. But the success attending those making engines and boilers, cotton gins, plows, wagons and other incidentals

of Southern agriculture proves that attention needs but to be turned to such other things as we require to produce them with equal success.

The field for this class of manufactures is large and inviting and becomes more so every day. The labor revolution that has begun already will increase in volume, as we have tried to show, and with it will grow the demand for all tools, implements and machines that will expedite farm labor by substituting machinery for human muscles, and letting the latter, guided by intelligence, do the work of many men.

With this revolution well under way there will come to the Southern youth that love for and pride in agriculture which prevails largely among the youth in many other sections. It is hard, monotonous work to follow up and down the long field rows behind the plow, but it is a very different thing to sit behind a pair of horses, guiding their motions while the gang plows underneath run smoothly through the yielding earth, leaving long evenly-turned furrows behind. The monotony, the tediousness, no longer exist. And so it is with all other ingenious contrivances for saving labor in agriculture. They promote independence. They economize the cost of production. They afford time, even in the busiest seasons, for rest and recreation. They remove three-fourths of the burdens and increase the profits of agriculture. They are sure to be in the end in universal use in all the Southern States except in its mountain districts, and even among them there are rich valleys and broad plateaus where they can be advantageously employed.

The South has the timber and the iron, and will soon make the steel required for all these things, and there are scores of places where well-located lands would be gladly given to manufacturers who would start such establishments as we have suggested. Northern and Western manufacturers who desire to get a strong foothold in this great and promising market could in no way do it so well as by establishing branch factories at available points in the South.

THE commission appointed by Secretary Whitney in January last "to examine and report as to the most desirable locations for navy-yards and dry-docks on the Gulf and South Atlantic coasts," has just reported to Secretary Tracy. The new navy-yard site decided upon is a government reservation at Algiers, La., opposite New Orleans, fronting 384 feet on the Mississippi, with a depth of 2,880 feet. It is proposed to establish a dry-dock at the new yard to cost \$840,000, which will require three years for construction. The commission further recommends the establishment of a dry-dock, depot of naval supplies and coaling station on Paris island, in Port Royal harbor, S. C., on the site of the present naval station. This dock will cost \$675,000 and will require three years also for completion.

To Draw Capital South.

With a view to attracting the attention of the entire financial interests of the United States to the growth of the South, to the advantages of this section and to the opportunities for profitable investments of all kinds that are to be found in every State, from Maryland to Texas, the MANUFACTURERS' RECORD will shortly publish a "Special Bankers' Edition," a copy of which will be sent to every bank (national, State and private) in the United States, to loan and trust companies, brokers, leading insurance companies and financial institutions generally. Nothing of this character has ever before been undertaken in this country, and never before has such an opportunity been afforded to reach every financial institution in the United States. The value of this to the South cannot be overestimated. It will draw the attention of the entire banking and allied interests of the whole country to the marvellous advancement and possibilities of the South. For Southern bankers, owners of mineral and timber properties that are for sale, real estate agents, transportation lines, and all others who wish to reach the moneyed men of the whole country, this "Special Bankers' Edition" is the best advertising medium ever offered. It will result in attracting many millions of dollars to the South for investment, and in inducing many thousands of people to make a personal investigation of the advantages and the resources of this section.

A Ludicrous Fiction.

The story telegraphed from Toronto the other day to the effect that a colony of Virginians from Albemarle county proposed moving to Manitoba with their servants and personal belongings was one of the most absurd conceptions that could enter any one's head. To leave Virginia for Manitoba would be to quit Canaan for Spitzbergen. And to locate the would-be emigrants from Albemarle county was even more ridiculous. Nowhere in the United States is there to be found a better location for the thrifty husbandman than in old Albemarle, the favored seat of Jefferson. Generations have gained a livelihood from its fertile acres, and the soil is generous yet to the tillers. The staple crops of Virginia yield in profusion in Albemarle, and as for the vine, the soil is as kindly as that of Alsace. The wines of Albemarle are famous, and the region could support a large population by the work of the vineyard alone; in fact, the people of Albemarle err in not publishing fully to the notice of the world the attractions of their favored section.

It is possible that the confounding of Charlottetown, Prince Edward's Island, with Charlottesville, Va., led the Toronto news purveyor into his blunder. He certainly drew upon his imagination, however, as to details. A Charlottesville dispatch states that the story is entirely groundless, and yet it has gone from one end of the land to the other that the failure of crops around Charlottesville had caused this emigration. It is needless to say that crops have not failed in that region, that the people are prosperous, and that a better country could scarcely be found.

Lands Going Begging.

Many of the county papers of South Carolina ought to be scattered through the Northern States during the next two weeks, for they contain columns of official "sales day" advertisements that, properly appreciated, would cause hundreds of farmers and investors to go there and buy land. Sales day in South Carolina is the first Monday of every month. Then at the courthouses at high noon properties are disposed of at auction by order of the court. It has been the wise custom of the courts for many years to order land sales to be made the first Mondays of December or January, because at those dates farmers had received their cotton money and would have cash on hand to pay the one-third instalment required at the time of purchase. This rule still prevails.

An examination in detail of these advertisements reveals the gratifying fact that but a small number of these sales are for tax or debt executions. The large majority were ordered to facilitate the partition of estates.

Believing that these many thousand acres that were so soon to be sold at auction in several counties on the same day would scarcely find enough purchasers among the people in their vicinity to cause lively bidding, and that if the facts were fully known many of our Northern readers would be glad to avail themselves of this unusual opportunity to invest in timber and farm lands, the MANUFACTURERS' RECORD has detailed a staff correspondent to ascertain such facts in the case as would be of interest and importance. From his reports we learn that in the tier of counties lying east of the Blue Ridge in South Carolina, there are more than thirty thousand acres to be sold at auction on the first Monday of next month. The terms are one-third cash at the time of purchase, the remainder to be paid in equal instalments in one and two years, and to be secured by mortgage. These tracts range in size from 25 to 3,700 acres. All the larger ones are to a considerable extent covered with valuable timbers. Some are near, others several miles distant, from flourishing railroad towns. There is scarcely an acre of land in the whole lot that will not pay for tillage. On some of

these estates are commodious residences with all necessary outbuildings. There are several tracts within which are unused water-powers sufficient to run great mills. In a sentence, there are desirable tracts for small farms, large plantations, factories of various kinds, town sites, cattle and sheep ranches. And all these will be sold at less than one-half their appraised value because the properties are many and the purchasers are few. When it is considered that this is one of the most healthful sections of the South, that it is now being opened up by railroads, that outside of the railroad towns it is sparsely settled, that it is a fine agricultural region that capital and skill may develop into a garden, that it is in the heart of the upland cotton belt, that every part of it is within a day and a-half by rail from New York, that it abounds in pine timber and hardwoods, it will be seen that here are opportunities for investors to put their money where it will be safe, into property that is going begging for buyers, and that, because of its intrinsic value, will certainly command for those who can afford to wait much greater prices than they will now have to pay.

We cheerfully give to Chester, Lancaster, Spartanburg, Chesterfield, Kershaw and their sister counties this general notice, for in all are signs of such progress in development that the opportunities now presented for buying lands in them at a bargain will probably never be repeated, and while they exist we wish our Northern readers to be apprised of the fact.

The Sulphuric Acid Industry.

A letter from Salisbury, N. C., appeared in the railroad department of our issue two weeks since, in which, incidentally to an account of the resources of the regions through which the Yadkin Railroad is to be built, the following sentences occurred:

"Among other results * * it will render possible the utilization of the hundreds of thousands of dollars now locked up in the pyrite, gold and copper mines of Rowan county. These ores are refractory and cannot now be properly handled. This road will place them in close connection with the phosphate rock of South Carolina, with reduction works to extract the sulphur from the ores and use it in the manufacture of sulphuric acid, with which to treat the phosphate rock. On the fertilizers thus produced and on other by-products there would be sufficient profit to reduce the cost of handling the ores to a very profitable basis."

In a letter from a special correspondent which appears elsewhere in this issue attention is called to the value of Southern pyrites as sources of acid supply, and comparative tables of the working cost of brimstone and pyrites are furnished to show that there is more profit to be derived from the

native ores than from the use of imported brimstone.

Since the discovery of the vast phosphate deposits at Charleston, and their utilization for fertilizers, the demand for sulphuric acid at the South has grown to great proportions. It is well known that this is dangerous stuff to handle, and that, consequently, its transportation is expensive. Whenever it can be done, economy requires that the rock be taken to the acid for treatment. It is this necessity that has encouraged capitalists to undertake the manufacture of acid from brimstone at Columbia and Charlotte, and their success will doubtless lead to similar enterprises elsewhere. It becomes, therefore, a matter well worthy of careful investigation as to whether Southern pyrites are not really nature's provision for supplying the needs of phosphate manipulators.

At first glance the statistics given in our Yorkville letter seem to contain glaring discrepancies. The aggregate weight of brimstone, nitre and coal in the first table is 2,550 pounds, from which are said to be produced 4½ tons of sulphuric acid. A similar seeming discrepancy appears in the pyrite table. The question naturally arises how can 1¼ tons of materials, or even 2¾ tons, as in the pyrite instance, be, by chemical action, increased to 4½ tons. The explanation of this fact is very simple. Theoretically, in burning a pound of sulphur 3 16-100 pounds of muriohydrate are obtained, which are a pure 66° acid; but in practice, instead of getting that quantity, only 2 95-100 pounds are the result, which reduced to 50° B., the chamber acid used for phosphates, is 4½ pounds.

One hundred pounds of pure sulphuric acid is practically made up of two pounds of hydrogen, 32 pounds of sulphur and 66 pounds of oxygen; therefore 100 pounds of sulphur will add to its own weight, by withdrawing them from the atmosphere, six pounds of hydrogen and 199 pounds of oxygen, giving a total result of 305 pounds of pure sulphuric acid. That the cotton plant, which is one of nature's most wonderful machines, manufactures its prized lint from the atmosphere is so well known that the statement excites no wonder, and the 7,000,000 bales now going to market are evidences of its extractive power. So man, burning the sulphur and catching its fumes in properly-constructed chambers, obtains this great increase of weight from the atmosphere, and produces an article essential to the preparation for the farmer's use of the most valuable of all commercial fertilizers.

The average value of sulphur in American pyrites is 46 per cent., and has therefore been adopted as the standard for statistics. One pound of standard quality pyrites is equal to 1 8-10 lbs. of the chamber sulphuric acid used for treating phosphates. Acid chambers are made of heavy sheet lead supported within

strong wooden frames. The ordinary dimensions are 128 feet long, 24 feet wide by 18 feet high. It has been found that in such a chamber a space of 20 cubic feet should be allowed for every pound of sulphur burned.

The supply of pyrites is beyond estimate. Immense bodies of ores have been found in various parts of the South, either by themselves or in association with other metals. There are also in Southern gold mines thousands of tons of refractory ores that, deprived of their sulphur and reduced to "mats," would fulfil the predictions of our Salisbury correspondent. But this is not primarily a question of the value of by-products. It is whether nature has not provided the South with a supply adequate to all requirements of the most economic of all materials from which sulphuric acid can be obtained. The phosphate beds were discovered and their products have come into universal use since the war. Near to them, in practically inexhaustible quantities, are the as yet unused materials for making the acid needed to give the phosphates quick effect. The MANUFACTURERS' RECORD is strong in the belief that it will pay to utilize the pyrites for the sulphuric acid industry.

A Happy Suggestion.

All things considered, perhaps the boldest undertaking in the way of town building yet exhibited is that of the Middlesborough (Ky.) Town Co. When we speak of their project as a bold one, we do not mean to say that it is at all risky. On the contrary, it is well conceived, substantially backed and altogether promising. It is in the largeness of the company's plans that the scheme appears bold. Middlesborough is on the map to stay, and will become more and more prominent as the plans of its promoters mature.

It was a happy thought of Mr. Charles W. Livermore to suggest to the Middlesborough Town Co. the advisability of setting apart a lot of ground in the new city for the site of a trades school, in which manual training shall be taught in its more important branches, and a supply of intelligent and qualified apprentices be prepared for the industrial establishments of the new city. Schools of this character are multiplying, and every community which secures a manual training school, well equipped and properly supported, is to be congratulated.

President Alex. A. Arthur, of the Middlesborough Town Co., has replied to Mr. Livermore, and assures him that his suggestion will be submitted to the board of managers, with a cordial recommendation that his request be granted. The idea is a good one in itself, and is worthy of the attention of town companies throughout the South. Middlesborough is determined not only to develop great industrial enterprises, but to provide the means for technical education, that its own manual labor school may furnish skilled workmen for all branches of manufacture.

The Farmers' Alliance.

No organization spontaneously organized to protest against dominant evils or wrongs since the opening of the century has had before it a field so teeming with possibilities as the Alliance has. This organization sprung into existence at a time not alone critical, but transitional in the history of the South. So far it has continued to fulfil its mission. It has brought about radical changes in action, methods and ideas. Will it continue to increase in usefulness and good works?

The last straw broke the camel's back, yet this straw was only one of a multitude of straws. The bagging question brought the Alliance into great prominence, yet this question was only one of a host of other vital questions that were before the Southern people.

As we understand it, the Alliance of to-day has something more in view than the mere settling of whether or not the farmers of the South shall pay whatever price is asked for jute bagging and ask no question. This question is not lost sight of, but others equally important are put on a par with it.

When the writer was in Alabama recently he fell into conversation with a farmer who was on his way to Anniston. In telling of his experiences in farming, this farmer well illustrated what the Alliance has done and can still continue to do for the South. In former years he had often raised ten or twelve bales of cotton to the mule on his land. This year he only raises seven. But he makes more money now than he did then, for then cotton was his sole crop. This year he raises corn enough for his family and help, and has some to sell. He also raises nearly all his own pork. His cotton, therefore, represents a large increment of profit, and he will lay by some money.

The one great purpose of an organization like the Alliance is to teach its members to think. This thinking makes them have more regard for their own welfare and interests. The Alabama farmer had thought out the economy of raising his own corn and pork. And the Alliance, we believe, will lead others of its members, as it had led this one, to independence of thought and action. In so doing it will settle the bagging question; it will kill the one-crop method; it will bring better, happier and more contented homes to its members; it will drive out the wolf-like money changers, and in short, will clear the highway to prosperity of obstacles which have been holding the Southern farmer in debt to the West, the North and to the outside world.

One stumbling block threatens the Alliance—that of dabbling in politics; but with its clean record up to date, the earnestness and sound common sense of its members, and the great amount of good work yet to be done

for the upbuilding and uplifting of the South, the MANUFACTURERS' RECORD believes that this will be avoided, and that the Alliance will go on increasing in strength, earnestness and good works.

A COTTON plant has been grown that produces seed without lint. Mr. T. Ferguson, a reputable planter of Spartanburg, South Carolina, has produced this novelty after many careful experiments. He claims, and credible men of experience in cotton planting agree with him, that what has been already done indicates that a yield of 400 bushels of seed to the acre can be obtained, as against 35 bushels from lint cotton. The State Agricultural Bureau will investigate this new plant, and in due time give the results obtained to the public. Mr. Edward Atkinson has maintained that in time cotton would be planted for the seeds more than for the lint. If one-third of Mr. Ferguson's enthusiastic expectations are realized it will hasten the fulfilment of Mr. Atkinson's prediction.

This is an era of agricultural experiments, and of State stations for their careful scientific oversight. Every farmer in the South can be sure that when through his ingenuity and skill he has secured something new that seems to him a valuable addition to agriculture, he has in the Agricultural Department of his State a trusty friend, from whom he can receive an honest report of its actual value to himself and the public, and that if the report declares that it has intrinsic merit, it will give to his discovery a reputation and a credit that will at once enhance its marketable value to himself.

There has been an idea altogether too prevalent among Southern farmers that the money devoted to experiment stations was wasted; that while it was well enough to have all commercial fertilizers inspected, that they might be protected from frauds, yet that the surplus of what was collected from the manufacturers for licenses, after paying inspection expenses, should be covered into the State treasury for general purposes. This idea, though fostered by petty damagocues in the rural districts, is fast losing its hold upon the bucolic mind, and thorough investigation, such as is proposed for Mr. Ferguson's lintless cotton plant, will help to dispel the illusion and serve to convince the farmers that the chemist, the laboratory and the experiment station are worth much more than the cost of maintaining them.

"Ignorance is our curse," said a shrewd Southern farmer to the members of his sub-Alliance. "When we know more we shall make more by losing less." If all the State departments of agriculture, and the national department also, will take pains to popularize their work by giving freely and frequently to the press details of what they are doing in sentences as free from technical terms and phrases as possible, there will soon be an end

to all opposition and a general public interest will be aroused in their favor. The farmers as a whole have learned that ignorance is not bliss, and that it is folly to be unwise.

Referring to this new variety of cotton, the Charleston News and Courier says:

A box of the matured bolls of the new plant has been received at the office of the News and Courier, and an examination of the contents of these bolls fully confirms what has been published as to their peculiar characteristics; that is to say, every boll contains as many seeds as it can hold, and every individual seed is as clean as a Boston bean or a buckshot. There is not a vestige of lint in any of the bolls, or pods, which were received in the condition in which they were plucked from the stalks, and were opened in the News and Courier office.

SO MUCH attention has been attracted to the new town of Middlesborough that the following particulars about the Middlesborough Town Co., which have been sent us by the general manager, A. A. Arthur, will prove of interest:

The Middlesborough Town Co. was organized in April, 1889, with a capital stock of \$2,000,000, of which \$1,500,000 has been issued. It has no liabilities, except the capital stock.

The company owns about 5,500 acres of flat town lands, within the foot hills of Cumberland and Log mountain ranges, in the Yellow creek valley, Bell county, Kentucky, in and about the city of Middlesborough, and its purpose is to build up and develop the city, deriving its profits from the consequent enhancement in the value of its real estate.

The company is an off-shoot from the well-known English corporation, the American Association, of London.

In May, 1889, the city had a population of about twenty-five people. It has now (November, 1889) a permanent population of about three thousand; building improvements to the value of about \$350,000 have already been made, and the buildings, consisting of stores, factories, residences, etc., are in full occupation.

In addition, there are now (November, 1889) in the course of construction buildings, factories, etc., which will cost when complete about \$250,000.

These estimates do not include the monies now in the course of expenditure on the furnace plants (2), tannery, coke ovens, coal mines, belt railroad, zinc works and other industrial enterprises under way.

The company has already expended about \$75,000 in improvements in the shape of laying off and grading streets, changing the course of creeks, etc.

The sales of real estate by the company during the October, 1889, sale amounted to \$378,050, of which sum one-fourth was received in cash and the balance in interest-bearing notes.

The company will pay in December, 1889, a cash dividend of ten per cent. on the capital issued.

The company has established at its own cost electric-light works and temporary water works, also a street railroad, all these works being in satisfactory operation.

The assets of the company consist of interest-bearing land notes, water works, electric-light works, about five thousand residence and business lots laid off; with an average value of \$25 per front foot, and surrounding residence and business properties unplatted, containing about 4,750 acres.

If you are not already a subscriber to the MANUFACTURERS' RECORD, send us \$4 and you will receive it regularly for one year.

Observations on the South.

[For the MANUFACTURERS' RECORD.]

It has been my good fortune to see more of our great republic and of the world than falls to the lot of most young men. In my travels and wanderings I have become familiar with New England, both in her large cities and in her many small but busy towns. My acquaintance, too, has been extended over the Middle and adjoining States, and as a thorough rounding off and final ripening process in the great school of travel, I made a trip to California, sailed through the Golden Gate and over the Pacific ocean into Behring sea, skirted the shores of Siberia for fifteen hundred miles, made frequent excursions on shore to study the people and their customs and to absorb all interesting and instructive things I could, crossed over to Alaska and hugged its coast for two thousand miles or so in a staunch little bark that defied the Arctic ice floes and terrific gales that threatened us, struck boldly off into the north pack of solid ice north of the continent of North America, made a great sweep along the edge of this pack westward until we were north of Siberia and almost in sight of the fatal spot where De Long and his men met their terrible fate, then returned to San Francisco, took a different route from the one I had gone west on, and returned to New England.

Such a round of travel as this gives an observing man opportunity to see a great deal. He may not be able to reach the true inwardness of things, but he can grasp, to a considerable extent, the thrift and industry of the people, the qualities of the farming lands and the resources of the hill-sides and mountain-sides. He can see why this town or locality is prosperous, and why that one is not. He can judge to a considerable extent how much basis a boom has under it. In short, he can comprehend, in a general way, the condition of the people and the possibilities of the country. If he sees a substantial factory or two on a river's bank, sees the hill-sides dotted with neat, home-like cottages, surrounded with carefully cultivated gardens, and observes children going toward a large building, the most conspicuous one in town, and listens to the jangle of the bell as some rollicking boy turns it over and over to announce the opening of school, he knows that he is in some New England town that has nestled around this one industry or two for half a century or so. If he sees a broad street lined on each side with stores, an elevator or two along the railroad, and heavily laden farm wagons, he knows he is in some prairie farming community. The mining town speaks for itself in its clusters of little houses and the various dumps of rock on the mountain side. Boom towns will be recognized with their streets and town lots staked out six and perhaps ten miles from the town. Here are characteristic towns from Boston to San Francisco.

How is it in the South?

Just before starting South a month ago I was told by one of the South's truest and best friends that I had left the best until the last in my travels. Apparently he was right. The South has evidently passed the crisis and is now on the main highway to prosperity. It gives every indication of being able to duplicate in many places the industrial hamlet of New England, the farming community of the prairie and the mining town of the Rockies. There are times when a man can scarcely believe his own eyes, and such a time comes when he has travelled from Boston to San Francisco and observed carefully, and then travels through the industrial belt of the South. Not only are all the natural re-

sources of the North and West duplicated, but they are so outdone in quality and quantity at times that he cannot believe what he sees. What choicer and richer farming lands can be found than I saw in the valley of Virginia, the great valley of the Tennessee and elsewhere? I never saw such vast areas of virgin forest as I saw in North Carolina, Tennessee, Kentucky and elsewhere. And what added to my astonishment was the variety of woods. They were not great areas of the cheap spruce, hemlock and pine, but choice oaks, maple, hickory and other valuable woods. I saw iron and other mineral deposits of incredible richness and extent. I saw blast furnaces, cotton mills, wood-working establishments, flouring mills and other industries fitted with the most improved appliances and machinery. At Roanoke, Chattanooga, Middlesborough and in other places I saw as wide-awake, far-seeing, active business men as I ever saw in Chicago, Kansas City or New York. In short, I saw everything that promises great industrial supremacy to the South.

As I went south from Virginia to Birmingham, Anniston and Atlanta and made frequent stops for observation and enquiry, I saw a region of marvellous resources—a region that has in it the possibilities of making the greatest industrial empire on the face of the globe. I saw a region that for many years to come will attract the capital of the North and West, and return dollar for dollar with good interest when properly invested. Investment in the West during the past ten years has exceeded the abilities of the country to pay interest. Railroads have been extended, towns laid out and other projects been carried out that must wait years for any returns on the investment. The South impressed me as a region where lands can be purchased, railroads built and towns established with a guarantee of success. In each instance there will be something more than rich farming lands to depend upon. There will be coal or iron or great forests, or other undeveloped resources that bring forth greater returns than corn and grain fields.

Many times I heard the expression "just give us some Northern money and some Northern men to start things going and you can see us grow," but in some instances where both these wants have been obtained other things are lacking that to me seem to be necessary. I heard a man in one Alabama town say "my little girl learned more in a month in Lexington, Va., than she learns here in three months, and she is getting so behind in her studies, that my wife and I teach her evenings, so that she will have some sort of an education."

In nearly every town North and West the public schoolhouse is the most noticeable building in town. It is the one building that the citizens pride themselves upon. In the South it seemed to me that the courthouse was the one leading building. In the abstract, justice is more to be preferred than education, but unfortunately what we call justice in these days carries with it litigation, and there are few greater peace and wealth destroyers, outside of liquor, than litigation. One of the large investors at Fort Payne said to me: "We are going to have good schools and good teachers here if we have to send North for every teacher and for every brick and piece of lumber to build our schools." This is a foundation which assures the prosperity of any community. Natural resources count for something, but brains and energy greatly outweigh them. In Kansas City one hears the expression: "Nature never intended that there should be a city here." But the city is there. And so in the South. Some towns with all possible natural facilities are waiting for growth, and while they are waiting, other towns go out

and seek growth and draw it their way.

The traveller finds disagreeable things everywhere, but they do not condemn the place, nor do they condemn all the people that live there. Suffice it to say, I saw in Virginia, the Carolinas, Eastern Tennessee and Eastern Kentucky, a region which gives promise ten years hence of controlling the iron and steel markets of the world, or at least of dictating to these markets, and of making fortunes for those who purchase mineral and other properties there now, that will belittle the fortunes making in any other part of the world in legitimate trade.

H. L. ALDRICH.

Some South Carolina Minerals.

[Spec. correspondence MANUFACTURERS' RECORD.]

YORKVILLE, S. C., Nov. 21, 1889.

In a recent letter a description was given of the various iron ores of the three mineral zones of which York county is the geographical center, but ores and minerals other than iron received only brief mention. Further investigations of the latter have convinced me that while the iron development to be made in this county will necessitate the growth of a great industrial center at some place within its borders, there are other minerals that furnish abundant raw materials for extensive and profit-paying enterprises. What some of these are will be the subject of this letter.

Barytes is found on both sides of the three C's Railroad, in the building of which a considerable vein was exposed. It is apparently in largest quantity in the vicinity of Kings creek, where a side track can be run in and the material loaded on the cars. It occurs in masses and veins, and is of that pure white which the trade requires. The lack of cheap transportation, one of the drawbacks to its utilization in the past, has been removed by the railroad builders, and another is no longer of any account because of modern inventions. Diffused through this rock is a very small percentage of quartz grains that make it too hard for fine pulverization in the buhr mills ordinarily used for that purpose, but the grinding machinery now generally used could reduce this barytes to an impalpable powder if desired. While it would pay to mine this deposit and ship it to grinders elsewhere, it would be more profitable to do all the work at the mine, where labor and fuel are much cheaper than at the Northern mills engaged in this business.

Another valuable mineral is corundum, which is found in workable quantities in a belt of gneissoid and crystalline rocks in the vicinity of Nannie mountain. The geological features of the large area in which it occurs are similar to those of the famous corundum localities of Macon county, North Carolina. It is associated with diaspore chlorite, steatite and feldspar. It is in nodules, sometimes in streaks, running through the gangue mass. It is of a dark blue color, showing striations on its surface. It breaks in lamina rather than in grain, but possesses excellent abrading properties. Although a true corundum, it is quite different in appearance and character to the same mineral of North Carolina and Georgia. The "float" by which the extent of the deposit may readily be traced is abundantly spread over the surface, and often impregnates the soil in workable quantities to a depth of several feet. By the use of hydraulics this "float" mineral could be obtained in marketable shape. That found "in place" must necessarily undergo crushing, sifting and washing to make it marketable. Sufficient work has been done to prove beyond all doubt the abundance of this mineral. The nearest railroad point is Clover, a station on the Chester & Lehigh Railroad, distant eight miles.

In the case of both corundum and barytes the most profitable procedure would be to

manufacture each here and to ship the finished products.

The most valuable and the most abundant of all the minerals of this section except iron is pyritic ore, which is found in many localities in York and the adjacent counties. These are not only rich in sulphur, but are valuable for the gold and copper they contain. These ores should be burned in a properly constructed kiln, and the sulphurous fumes led into chambers for the production of sulphuric acid of the strength required for phosphatic fertilizers. The residue, or cinder, should be thrown into a furnace and smelted sufficiently to form the copper and other metals into a so-called "matt," which would admit of transportation to a refinery. That is the course pursued in Europe, and can be done here to equal advantage. A sulphuric acid plant, fitted up as here suggested for utilizing these pyritic ores, located at some central place on the "Three C's" Railroad, would be able to secure all the ores it could handle at a low figure and do a profitable business. At Charleston the large acid works are run on brimstone brought from Europe, and the erection of extensive acid chambers is projected at Columbia, S. C., and Charlotte, N. C., both of which are to use foreign brimstone.

The relative cost of making sulphuric acid from brimstone and from pyrites is shown by the following tables, which are based on actual work in New York city:

BRIMSTONE.	
2,000 lbs., with 98% sulphur.....	\$19 00
50 lbs. nitre, at 2½ cts.....	1 25
500 lbs. coal, at \$4.....	1 00
Labor.....	2 25
Superintendent and management.....	3 00
Repairs.....	50
Interest on capital.....	4 00
Total.....	\$30 00

PYRITE.	
2½ tons at 46% sulphur at 10 cts. per unit.....	\$11 50
60 lbs. nitre, at 2½ cts.....	1 50
500 lbs. coal, at \$4.....	1 00
Labor.....	3 00
Superintendent and management.....	2 00
Repairs.....	60
Interest on capital.....	6 15
Total.....	\$25 75

In these cases the resulting profit as between brimstone and pyrite is \$4.25 in favor of the latter in the actual cost of production, while the yield of sulphuric acid from the pyrites is somewhat in excess of 300 pounds greater than from the brimstone. Or, to put it in another form, the resulting product of 2,000 pounds of brimstone is 4½ tons of acid suitable for fertilizer manufacture at a cost of \$6.80 per ton, while the same quantity and quality of acid obtained from pyrites would cost but \$5.50 per ton, or a difference in favor of the latter on the entire lot of \$5.85, and this without taking into account the value of the cinder from the pyrite burners, which would yield handsome profits on the copper, gold and other metals they contained.

For many of the foregoing facts and data your correspondent is again indebted to Mr. Joseph G. McNulty, mining engineer and chemist, who has made pyrites and their utilization a special study for many years, both in this country and in Europe.

The pyrite belt extends from Virginia into Alabama. The demand for sulphuric acid increases yearly in the South, because of its use in connection with phosphate rock in agriculture. It is economy to carry the rock to the acid wherever that can be produced in the interior, hence the construction of acid works at Columbia and Charlotte. The next thing for capital to accomplish is the utilization of the bountiful supply of sulphur that may be extracted from Southern pyrites, thus making handsome profits from a native material and retaining in the country the large sums of money annually sent abroad for the purchase of brimstone.

This is no visionary scheme, nor is there need of costly experiments. This business has been done in Europe a long time, and has passed far beyond the line of

experiment. Theory has become practice. Results have been definitely determined.

It is known that as between brimstone and pyrites, the latter is the more economical source of supply for sulphuric acid. The only points to be ascertained are:

1. Which is the best furnace for burning the latter, and especially the pulverized ore.
2. The best dimensions for chambers.
3. How to get the maximum result from sulphur with the minimum use of saltpetre.
4. The best method of treating residues from cinders that contain metals of value.

It will not be necessary to go to Swansea, Wales, or to Fricburg, Saxony, to acquire accurate information on these four points. There are establishments in Maine, New York, New Jersey, and at least one in Georgia, where the processes are successfully conducted, and there are experienced chemists in the United States who can give the practical instruction required.

This section of South Carolina, rich in pyrites, but a few hours by rail from the Charleston phosphate beds, and in the center of one of the finest agricultural districts of the country, ought to be the location for the prosecution on a large scale of this highly profitable industry.

KENTUCKY'S YOUNG GIANT.

Great Enterprises in Progress at Middlesborough.

An Illustration of What Energy, Capital and Great Resources Combined Can Do.

[Spec. correspond'ce MANUFACTURERS' RECORD.]

MIDDLESBOROUGH, KY., Nov. 23, 1889. The evidence of the growth of this wonderful town, as a Hugo would put it, is more than positive—it is irrefragable. To think that eight months ago Middlesborough had no place on the latest maps, and to-day is a busy, bustling, confident, thoroughly-equipped municipality numbering nearly 4,000 resolute, go-ahead people, who are here to work the town and its environment for all they are worth, is enough in the way of an advertisement. The city is not a project. It is an actuality, and a growing and swelling one at that. The American Association, Limited, of London, the projectors and promoters of Middlesborough, knew a good thing when they saw it, and the results of their investments testify to their sagacity. Much has been written of the town's phenomenal development, but one might tire of the labor of description and yet not do even a measure of justice to its good points. Certain it is that Middlesborough is booming as few, if any, towns have boomed before.

The wonder of it all is that this future Pittsburgh of the South should have lain in the chrysalis state for nearly three generations ere it took on the semblance of an industrial center. The natural resources of the town site were known years ago. As long ago as 1823 (just think of it, the times of Monroe and the "era of good feeling") an iron furnace was opened here. But "the trail of the serpent was over the land," and the lesson of thrift was neglected. The war came, old conditions vanished, and the South's real sovereignty began to unfold its panoramic splendors. Here at the famed Cumberland Gap is the ideal site for the building of a great industrial center. The story of the work performed by Middlesborough's projectors has been told, and it only remains to keep your readers posted as to recent events in this wonderful community. But, before proceeding, it may be noted that the total capital invested here in the past six months in buildings, residences and plants, which run pretty nearly through the whole gamut of industry, foots up the enormous sum of \$1,245,250, and the value of the buildings

now under construction amounts to \$231,000.

Of course the main prop, or rather the prime basis of Middlesborough's future is the iron and steel industry. Three furnaces are under construction, and there is every prospect of a fourth being undertaken. Two of these are coke furnaces and will have a daily capacity of 150 tons each, and the other a charcoal furnace with a capacity of 50 tons of car-wheel iron daily. Mr. O. W. Davis, who is supervising the construction of the last-named furnace, is an expert in the car-wheel-iron trade, and when he asserts, as he does, that car-wheel iron can be made in Middlesborough and laid down at the most favored car-wheel producing centers in Alabama at a lower cost than it can be produced there, one is simply startled, and yet the nearness of the ore deposits and the wealth of timber at hand here are the evidences with which Mr. Davis fortifies his assertion. The Middlesborough company own 60,000 acres of coal, iron and timber lands lying in a compact body near the town site, and there is abundant room for many great industries. Every encouragement is given to settlers, and special inducements are offered to manufacturing concerns which may be located here. The town is not a speculation; it is a reality thoroughly planned and well supported at the start. Pullman, Ill., is another such enterprise, though of a much less limited scope.

As showing the faith that is felt in the future of Middlesborough, it may be noted that Pittsburgh parties expect to establish here at an early day a plant of 300 tons daily capacity for the manufacture of steel by the open hearth basic process. Eads, Hixter & Heald, of Plymouth, Mass., and Clinton, Tenn., will also remove their large zinc works here. They propose to put in here 400 retorts for the manufacture of zinc pig. They will also establish a large fire-brick plant. A brass foundry and wire works and a galvanized wire works are also being negotiated for, and other establishments are in contemplation. On October 20th last there was a great sale of lots here, but since then a large amount of property has changed hands at an advance of 20 per cent. over prices then realized. From the foregoing it may be accepted that Middlesborough is here to stay and to boom.

[Spec. correspond'ce MANUFACTURERS' RECORD.]

BLACKSBURG, S. C., Nov. 23, 1889. Meetings were held to-day in several townships of York county in compliance with a published request from county commissioners, their purpose being to obtain an expression from the taxpayers as to whether the commissioners should employ counsel to resist the suit brought against the townships in the United States Court.

At the meeting in this place strong resolutions were unanimously adopted in which the validity of the bonds and the duty of the townships to pay these were declared in plain terms. A committee of three citizens was appointed to attend the meeting of the commissioners next Monday, and to earnestly protest against any action favoring of repudiation or delay.

Whatever may be the case elsewhere, the people of Blackburg are nearly a unit in favor of an honest course, and regret exceedingly that their county commissioners have placed them in a false light before the public.

There is a prevalent impression among even the few who would be glad to have the bonds repudiated that the United States Court will grant the petition of the Massachusetts & Southern Construction Co., and will order the Boston Trust Co. to hand over the township bonds now in their custody to the former company.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

FORT PAYNE, ALA.

Every Indication That It Is to Be a Leading Industrial Center,

Because It Is Building on a Solid Foundation to Develop Its Rich Resources.

[Spec. correspond'ce MANUFACTURERS' RECORD.]

FORT PAYNE, ALA., Nov. 23, 1889.

It does the heart of a New England man good to be in this town. He sees so many New England men, hears the names of so many New England towns, and, most of all, sees the beginning of what is destined to be a great industrial center. A little taste of home is balm to a stranger in a strange country, however much he may admire that country, and it seems like being at home once more to go to the news-stand in the De Kalb, one of the most home-like and attractive hotels, by the way, I was ever at, and look over Boston and other home papers.

During my stay in the South I have seen many towns that are building substantially for the future. Fort Payne is one of them. It does not seem possible that the steady growth of this town can receive a check. It is delightfully situated, well laid out, surrounded by unlimited amounts of iron, coal of good coking qualities, limestone and vast areas of virgin timber land, and it is managed and backed by men of untiring energy, ability and resources.

The ride from Chattanooga here is through a broad valley bordered by high, wooded mountains. Now and then there is a break in the trees showing where some mine is being worked, or where charcoal is being burned. The mountain sides were gorgeous in their autumnal foliage as I rode through. At the bottom of the valley and climbing up the bases of the mountains were broad acres of corn or patches of orchards. "What a magnificent farming country," said a New Hampshire man who stood next to me on the rear platform of the train. "There isn't any land in New Hampshire to compare to this."

Fort Payne is in this rich valley, and as it grows in industrial importance will enhance the value of these farms and look to them for its "garden truck" supply. A million and a-half dollars is invested here in the development of industries and there is considerable to show for it. Nature has done everything for the place, so the company had only to go on with its developments without hindrance.

East of the town is a broad mountain slope, along the face of which a railroad has been built. This slope has numerous outcroppings of coal, many of which have been developed sufficiently to show that they contain thick veins of rich coal. By the aid of the railroad coal can be taken from the mouth of the mine and delivered at the furnace door in a few minutes, almost before the thrill of the pick has left it.

At the west another mountain backs up the town. On the slopes of this are outcroppings of iron. These, too, have been opened sufficiently to assure their unlimited quantity and rich quality. Another railroad is at hand, and by it the ore is dumped into the furnace almost at the entrance to the mine. As for limestone, that is in such abundance and so convenient, that it can almost be thrown into the furnace from where it is dug. Here we have a typical iron manufacturing site, with all expense reduced to a minimum.

The great advantages of the town do not begin to stop here. In addition, there is everything at hand to build and equip a fine town. I have already spoken of the vast areas of timber land. There are also several brick yards, and probably the most complete and best equipped fire-

brick, terra-cotta and drain tile factory in the country. In building this factory the same wisdom has been shown that I have found in many other industrial plants in the South. It has not been a question of how cheaply can it be built, but how well can it be built and equipped. The various grades and qualities of clay are in such abundance here that Fort Payne manufactures of clay must soon be the standard of the market.

It will be nearly four months yet before iron from the Fort Payne furnace will be in the market bidding for attention. There can hardly be much of it offered then in the pig, for well-equipped rolling mills are well under way and will be ready for work almost as soon as the furnace goes into blast. The iron will be converted into steel in these mills by the basic process.

Other towns in the South seeking industrial prominence can borrow a good lesson from Fort Payne in one thing, and that is in bringing excursions of capitalists from the North. Half a dozen such excursions have already visited this place. They average over one hundred men each. Now it would be impossible for any man of business ability to visit many towns in the South and not see a good opportunity for investment, and when such a man sees an opportunity of this kind he embraces it. How much, then, must Fort Payne have benefited by these half dozen excursions of one hundred or more men each?

Fort Payne is inaugurating another scheme that will be worth watching, and that is the establishment of schools. The management is made up of Northern men, and these men understand Northern workmen sufficiently to know that good schools must be established to attract them South. A man who is used to a good public school system will not move to a place where he cannot give his children the benefit of a good education. Only a few years ago a leading Pennsylvania firm decided to establish a branch factory in Georgia and spent \$30,000 in building and equipping a plant. It then induced some of its workmen to move down there to man the new plant, for skilled labor was required for its work. It was only a few months, however, before nearly every man was back in Pennsylvania, and the shop was abandoned, not because of the climate nor because of lack of orders, but because the workmen did not have such advantages as they were accustomed to to educate and bring up their children. The management here is determined that no such conditions shall exist, and I have found other live and progressive towns South that are establishing school systems worthy of any part of the world.

One cannot help having faith in this place. It has every advantage that nature can provide, and every facility that man can invent for developing these advantages.

H. L. ALDRICH.

THE Popular Science Monthly for December contains: The Descendants of Paleolithic Man in America, by Dr. Charles C. Abbott; Glass-making, by Prof. C. Hanford Henderson; III.—The Evolution of a Glass Bottle, (illustrated); Plain Words on the Woman Question, by Grant Allen; New Phases in the Chinese Problem, by Willard B. Farwell; Governmental Aid to Injustice, by George M. Wallace; Israelite and Indian, by Garrick Mallery, II., (concluded); Mental and Physical Training of Children, by Jessie O. Waller; The Struggle of Sea and Land, by Dr. Vincenz Hilber; The Royal Society of England, by Dr. William C. Cahall; Speech and Song, by Sir Morell Mackenzie, II., Song; Suspension of Vitality in Animals, by M. Victor Laporte; Sketch of Robert Koch, (with portrait); Editor's Table: Every-Day Science—A Comparison in Racial Developments; literary notices; popular miscellany; notes.

SALEM, VA.

IN THE ROANOKE VALLEY.

THE SWITZERLAND OF THE SOUTH.

*Its Superior Social,
Educational and Industrial
Advantages.*



DUVAL HOUSE—Erected in 1873.

*Salem Improvement Company
will begin to Sell Lots
December 11th.
Manufacturing Sites Free.*

LOCATION.—Salem, the county seat of Roanoke county, is in the heart of the Roanoke Valley, celebrated throughout the country for its fertile soil, picturesque mountain scenery and unsurpassed climate. Situated on the Roanoke river, between the Blue Ridge and the Alleghanies, at an elevation of 1,100 feet above the sea. The natural drainage is perfect, there is no malaria and the healthfulness of Salem is proverbial. Salem is central to the Mineral Springs region of Virginia, and is a noted and popular summer resort, the hotels being unusually good.

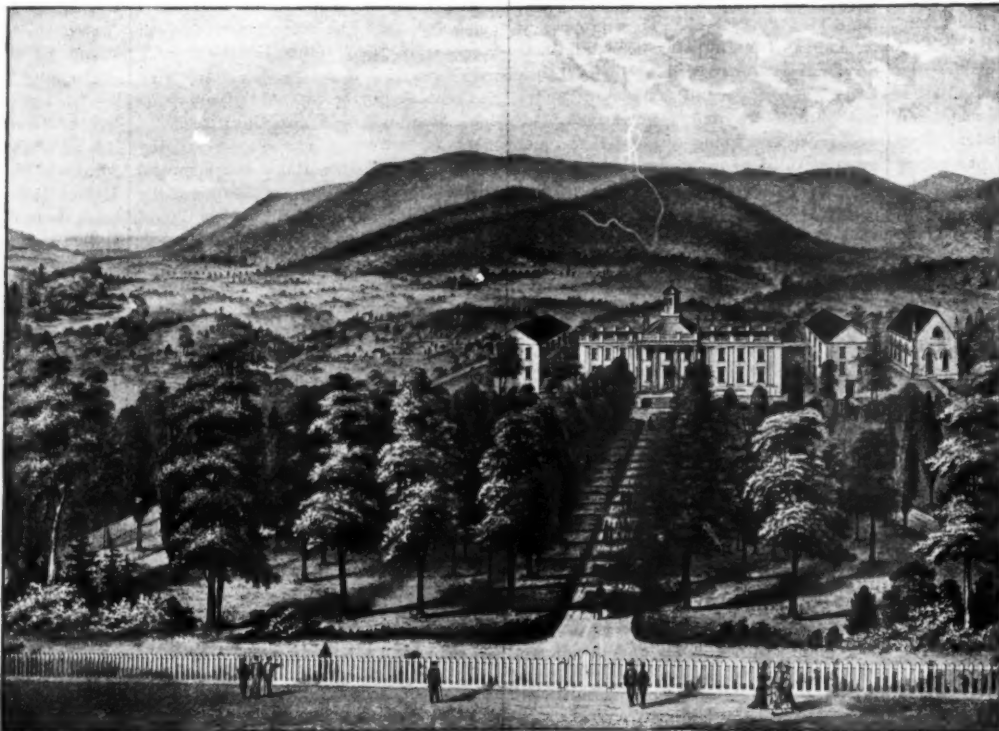
RAILROADS.—Salem is on the main line of the Norfolk & Western Railroad, and is the chartered terminus of the Valley branch of the B. & O. Railroad, which is already graded to Salem and which business men claim will soon be completed to this place. A dummy line to connect Salem with Roanoke City (seven miles east) is under contract to be completed by May, 1890.

WATER WORKS.—The town owns a complete system of water works, with an abundant supply of pure mountain water. In connection with the water supply an efficient fire department renders property in Salem comparatively safe.

POPULATION.—Salem has a population of about 2,500, and is justly noted for the

NEW ENTERPRISES.—The Salem Improvement Company, organized October 1, 1889, J. W. F. Allemong, President; authorized capital \$1,000,000. Of this amount only \$300,000 has been issued, which has all been taken and is already selling at a premium. This company owns about 900 acres of land in and adjoining the town. This property is rolling, thoroughly drained and well adapted for business houses and residences. Wide streets and avenues have been laid out and lots will be placed on sale at noon December 11th. About 100 acres of level land between the railroad and river front (fully a mile) is set apart for manufacturing establishments and sites are offered free.

The Salem Furnace Company, D. B. Strouse, President, has been organized with an authorized capital of \$2,000,000. Of this amount only \$250,000 has been issued. The furnace is let to contract and work already begun. This company owns 2,700 acres of iron-ore land near Salem. The Noyes Brick Works, of Washington, D. C.—capacity 50,000 a day—have already been moved to Salem to aid in meeting the demand of contractors and builders. The Land, Loan and Trust Company, of Salem, was chartered November 13, with an authorized capital of \$500,000; George Allen, Manager and Secretary.



Founded In 1853.

ROANOKE COLLEGE.

Catalogue Free.

social refinement, cordial hospitality, general intelligence, high moral tone and religious character of its inhabitants. It has always been very popular as a place of residence.

CHURCHES AND SCHOOLS.—There are eight churches, two flourishing public and several private schools. A commodious brick building for the graded school is about completed. Salem is the seat of Roanoke College, which has handsome brick buildings on ample and beautiful grounds, a library of 17,000 volumes and students from many States, Indian Territory, Japan and Mexico. The illustrated catalogue of 55 pages and further information will be furnished on application to the president, Dr. Julius D. Dreher.

ESTABLISHED INDUSTRIES.—The industries already established are the Camden Iron Works; two Roller Flouring Mills; Sash, Door and Building Establishment; two Carriage and Wagon Factories; a Tannery; several Fruit and Vegetable Canneries; Grain Cradle Factory; a Furniture Factory; two Chair Factories, and three Brick Yards. The Farmers' National Bank of Salem is one of the best managed banks in the country. The *Times-Register* has a large circulation and a well-equipped job printing office. There are also located in Salem the principal offices of the Bonsack Machine Company (capital \$1,000,000), the Comas Machine Company (capital \$100,000) and the South Birmingham Coal & Iron Company (authorized capital \$1,000,000).

Among the numerous improvements projected is a large brick building for the offices of the Improvement and Furnace Companies and for a Banking and Building Company, soon to be organized, with a capital of \$150,000. A site has already been given for a large "Bee-Hive" Power Plant (for small industries) with a capital stock of \$60,000. Many persons are prospecting here for sites for extensive manufacturing enterprises of various kinds. **Manufactories are exempt from taxation for five years.**

Property owners and real estate agents also now offer for sale lots in the town, land adjoining it and farms in the vicinity. Prices are advancing and now is the time to buy.

MINERALS, TIMBER, WATER-POWER, &c—Immense deposits of iron and other ores lie near Salem and throughout this county and section of Virginia. The supply of coal and coke is cheap and inexhaustible. The mountains are well timbered and there are also tracts of timber lands in the valley. The Roanoke River will furnish water-power for many large enterprises. Labor is cheap and all the conditions are favorable for building a large and prosperous manufacturing city.

For circulars and further particulars address

WM. T. YOUNGER, Mayor, Salem, Virginia.

SOME SPECIAL CLAIMS

POSSESSED BY

LIBERTY, VA.

TO THE FAVORABLE CONSIDERATION of all classes of prospectors, whether for homes, for investment of capital, for health, or for business enterprise. With the ensuing scholastic year will be opened the superb building of the Randolph Macon Academy, of which a cut is herewith presented. This institution is built for the thorough culture of boys—mental, moral and physical—is under the efficient management of Prof. W. W. Smith, LL.D., president of the Randolph Macon College at Ashland, Va., and has been constructed regardless of cost, to secure every condition essential to the successful attainment of its objects according to the most approved modern standards. Such another educational institution does not exist in the broad limits of the Southern States. In addition to this two handsome Female Academies, constructed upon the same intelligent, liberal and progressive principles as the Randolph Macon Academy, will be built during the coming year, and, if possible, receive pupils in September, 1890. Besides these, Liberty already possesses

shipping facilities and all the climatic, social, sanitary and pecuniary conditions requisite to the retention of skilled artisans once engaged in their employment. The manufacturers of tobacco, woolen goods, etc., already established here have found the local advantages so great that they have refused every inducement offered them to move to other points.

Every reasonable concession will be made to parties seeking locations for the establishment and operation of manufacturing plants, and upon application to the undersigned specific information will be furnished as to all details, both regarding the natural merits of the location, the character of raw materials within easy access and the terms offered to *bona fide* prospectors for sites.

Few better opportunities have been offered investors in Southern properties than the lands immediately adjacent to Liberty—lands possessing the intrinsic merit of natural fertility and productiveness in addition to close proximity to an embryo city,



RANDOLPH MACON ACADEMY.
LIBERTY, VA.

the usual quota of public and private schools, for which progressive Southern towns are noted.

These institutions insure an intellectual and moral tone in its society to the residents of Liberty that must give it pre-eminent attractions over mere manufacturing centers to the best class of settlers.

As a special recommendation to investors, Liberty possesses all the advantages of close proximity to the ore beds and coal fields of the famous mineral region of Southwest Virginia, is the county seat of Bedford, itself an unexplored mine of mineral wealth, representing granite, limestone, steatite, kaolin, the hematite and magnetic iron ores, asbestos, mica, graphite, mineral paints, fire-clay, &c.

Manufacturers would find here, within easy access and at low cost, all the raw materials used in their business. Cheap labor in great abundance, cheap fuel, excellent

shipping facilities and all the elements essential to steady and permanent growth. Some of these lands are already in the hands of improvement companies and have been laid out in beautiful, wide, shady avenues and divided in lots to meet the requirements of those desiring to build or to invest on a modest scale.

Liberty invites the closest scrutiny of its claims and does not require to indulge in extravagance or deception. Its growth is inevitable. With a superb climate, grand and imposing scenery, a surrounding country of great productiveness, invigorating mountain atmosphere, an unlimited supply of the purest free-stone water, unsurpassed healthfulness, good society and the finest schools for both sexes, enterprising and successful manufacturers, close proximity to the markets of the world, cheap labor, cheap lands, excellent shipping facilities, it lacks nothing but more people to make it a model city.

For Information address { J. LAWRENCE CAMPBELL, Secty. Liberty Improvement Co.
R. KENNA CAMPBELL, Manager Longwood Park, Va.

200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889, article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the duldest of dull times?

Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

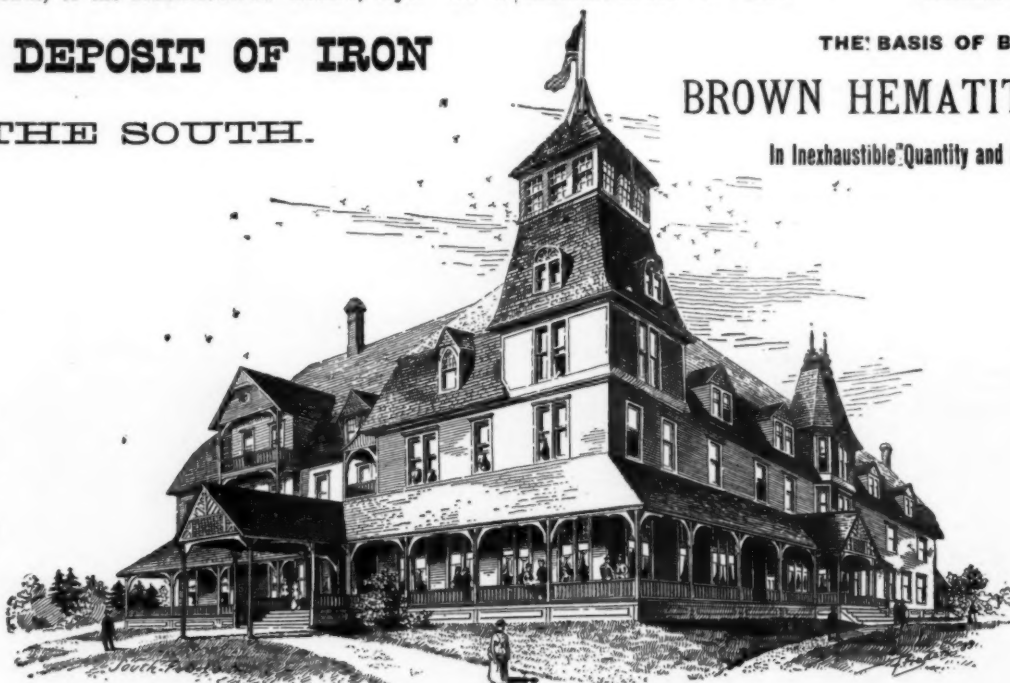
The sample of "brown iron ore,"	The sample marked "Gravel Ore"
marked "Bluff Ore," contains—	contains—
Metallic iron, - - 52.37 per cent.	Metallic iron, - - 53.23 per cent.
Phosphorus, - - - 0.782 "	Phosphorus, - - - 0.931 "
Silica, - - - 14.60 "	Silica, - - - 6.25 "
Water combined, - 8.10 "	Water combined, - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

LARGEST DEPOSIT OF IRON IN THE SOUTH.

BROWN HEMATITE IRON ORE

In Inexhaustible Quantity and Excellent Quality.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE SIGNAL—NOW OPEN AT BLUFFTON.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three fourths from the East & West Railroad, of Alabama.

FREE MANUFACTURING SITES.

Rich Manganese Deposit.

There are several very large and rich outcroppings of Manganese Ore on the company's property, and the deposits have been examined by experts and pronounced exceedingly valuable. Specimens have been sent to various steel works in Pennsylvania, and the result is a large inquiry about the ore. From present development can be seen several hundred tons of this ore. There is always a ready market for manganese, and it is quoted at \$18 to 20 per ton in Pittsburgh and Chicago. More extensive work will be done on these deposits within a very short time, as the banks are easily accessible. Shipments will soon be made.

OTHER RESOURCES.

Fire Clay and Brick Clay—Yellow Ochre.

On this property are large deposits of fire clay, which has stood the highest test. Shipments have been made to Chattanooga, Tenn., and it is pronounced a superior quality. A fire brick works could be established here that would prove extremely profitable.

In brick clay there is an inexhaustible quantity, with an abundance of water running through the clay land. Brick manufacturing here would pay handsomely, and the company would lease the clay beds for a term of years at a very low royalty.

The four charcoal pig-iron furnaces surrounding this property are nearly as valuable to this place as if they were located on the land of the Bluffton Company. The pig iron manufactured by them could be bought and utilized here for every kind of manufactured iron. They are so near that freight on the raw material would be comparatively nothing. Surrounding us, as these furnaces do, it makes Bluffton a centre.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham.

Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light.
Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

President, - - - -	COL. J. W. SPAULDING
First Vice-President, -	HON. D. H. GOODELL
Second Vice-President, -	HON. HENRY B. PEIRCE
Secretary, - - - -	C. L. T. STEDMAN
Treasurer, - - - -	F. H. TOBEY
Manager, - - - -	C. O. GODFREY

BOARD OF DIRECTORS.

HON. D. H. GOODELL, of Goodell Mfg. Co., Antrim, N. H.
HON. HENRY B. PEIRCE, Secretary of State of Mass.
GEN'L SELDEN CONNOR, Ex. Gov. of Maine, Pres. Northern Banking Co., Portland, Maine.
COL. J. W. SPAULDING, Ft. Payne, formerly of Portland, Me.
HON. F. G. JILLSON, Providence, R. I.
HORATIO ADAMS, Boston, Massachusetts.
W. J. CAMERON, Pres. First Nat'l Bank, Birmingham, Ala.
COL. JOHN B. BODDIE, Birmingham, Ala.
W. P. RICE, Pres. Union Investment Company of Kansas City, resides Fort Payne, Ala.

FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

✻ GATEWAY ✻

— TO THE —

GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawberries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has just been organized, and ground has been broken for a large fruit and vegetable canning factory.

A cotton mill company is being formed with a capital of \$500,000. Denison citizens have subscribed \$150,000 to this enterprise; Eastern capitalists will add \$350,000.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is being increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE,

Kansas City, Mo.

J. M. FORD,

Kansas City, Mo.

A. R. COLLINS,

Denison, Tex.

B. J. DERBY,

Burlington, Vermont.

PAUL LANG,

Oxford, N. H.

M. V. B. CHASE,

Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.

A. H. COFFIN,

Denison, Texas.

JOS. B. LINCOLN,

Boston, Mass.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultured forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.



MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.



MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 800 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Woodworking Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.



It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

CHARLOTTESVILLE, VA.

OFFERS

Great Advantages and Liberal Inducements to Manufacturers

DESIRING TO LOCATE SOUTH.

Railroad Facilities, Cheap Rates and Rapid Transportation to all Points Unexcelled.

PERFECT CLIMATE. UNLIMITED SUPPLY OF EXCELLENT WATER.

Gas, Electricity and Street Railway. Free Schools and Churches. Different Lines of Manufacturing Enterprises Already in Successful Operation Here.

A LIVE AND GROWING PLACE.

HOME CAPITAL WILL JOIN IN THE ESTABLISHMENT AND OPERATION OF FACTORIES.

COME AND SEE, OR WRITE TO **JOHN M. WHITE, President.**

CHARLOTTESVILLE INDUSTRIAL & LAND IMPROVEMENT CO., Charlottesville, Va.

SUMTER CAMDEN,

South Carolina,

is situated in Sumter county, midway between Florence and Columbia—40 miles from each—95 miles from Charleston, 125 from Augusta, Ga., and 136 from Wilmington, N. C., in the heart of an

EXCELLENT AGRICULTURAL COUNTRY.

It is on the Wilmington, Columbia & Augusta Railroad, and is the terminus of the Central of South Carolina as well as present terminus of the Eutawville Railroad, which is in course of construction to connect with railroads from Norfolk, with prospects of another in the near future.

It has a rapidly-increasing population, which at present numbers about 4,000.

ITS HEALTH IS UNSURPASSED

and it is one of the finest locations in the South for a

Winter Resort

for those seeking refuge from the cold blasts of the North.

A \$50,000 HOTEL is now under discussion, and any reliable hotel man who would like to engage in the undertaking can learn of something to his advantage by addressing Mayor Mood.

ICE FACTORY

is wanted; an Electric-Light Plant is now being put in, and Water Works are in progress.

Those seeking locations for

HOMES

or business will do well to correspond with the people of Sumter.

The Capital of Kershaw County, South Carolina.

This ancient and historic town is noted for its dry atmosphere, pure water, beautiful scenery, healthful climate and refined society.

It is the center of a rich agricultural country, which contains great natural resources. Hardwoods of many species are abundant, and great forests of long leaf pine, which impregnate the air with terebenthine odors. Several good hotels entertain travelers, and two are carefully conducted for the especial comfort of northern health and pleasure seekers.

Manufacturing of all kinds can be done here advantageously. Two railroads, the South Carolina and the Charleston, Cincinnati & Chicago, furnish transportation to all parts of the country. Two telegraph lines, the Postal and the Western Union, have offices here.

Churches and schools are numerous and well sustained.

A cotton mill company has been organized, and the first installment of twenty per cent. has been called in.

Land is cheap. The climate is salubrious, and subject to no extremes during the year.

Camden invites capitalists, manufacturers, pleasure and health seekers and sportsmen to visit the city and examine the advantages it offers to all.

All inquiries will be promptly answered by the undersigned, official representative of the intendand and warders.

DR. JOHN W. CORBETT

Or the President of the Board of Trade.

\$1,000 Bonus.

FREE SITES!

TO MAKE A

Profitable Investment,

Correspond with Secretary New Berne Board of Trade.

New Berne, North Carolina

IN RELATION TO THE

MANY SUPERIOR ADVANTAGES

—AND—

Ample Inducements

that **NEW BERNE** is holding out to those desiring to establish

FACTORIES WHERE THEY WILL PAY.

We are in the center of a most magnificent timber region. Wood of all kinds in abundance, and the best facilities for transporting to the mill and from the mill to market.

We are very anxious to develop our section by establishing factories. We have everything except capital, and we will make it pay capital to come to us.

We know that people flock to the booming sections, but still we do not want a boom, but a good, substantial and steady growth, such as we have had for the past ten years. The point is now reached with us that we can go no farther without capital to assist, and it will pay capital to investigate what we have to offer.

New Berne is now offering every inducement possible to aid manufacturing investors who will establish enterprises adapted to the natural advantages of this section. Address

Secretary New Berne Board of Trade

GEO. T. McWHORTER, President, Chickasaw, Ala.

JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE

Waterloo Land, Mining & Mfg. Co.

of Waterloo, Lauderdale Co., Ala.

will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than to any other town in Alabama Chickasaw excepted. Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale Counties lying in close proximity (5 to 15 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the state. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered. For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

SOME FACTS ABOUT FLORENCE, ALA.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

* * * * *

There are many other places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

* * * * *

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the ax has never touched.

* * * * *

Besides its industrial possibilities, Florence is a point of great commercial importance, and could be made the center of an enormous mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Certain railroad movements are in progress now that will give it direct communication in every direction and by different lines.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c, as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

* * * * *

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

* * * * *

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

* * * * *

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

* * * * *

Since the first of September, 1888, over 25 industries have been located at Florence, with an aggregate cash capital exceeding \$2,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

* * * * *

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: A furnace about ready to go into blast, and another partly constructed; a stove factory; a hardware company, with a capital of \$300,000 to manufacture fine building hardware, &c.; a wagon factory, with capital of \$150,000; an agricultural implement works; a handle factory; a woodenware factory; a sash, door and blind factory; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; three building and loan companies; a canning factory; several brick factories; a dummy railroad company, and several other enterprises.

* * * * *

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now more than 8,000. There are more than 1,100 carpenters at work in Florence and they can't build houses fast enough to keep up with the increase in population. Before the first of January next there will be 15,000 people living here.

* * * * *

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to any of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Railroad and Improvement Co.

Lauderdale Manufacturing Co.

Cotton and Iron Co.

Florence Investment Co.

RANDOM NOTES ABOUT THE

“MODEL CITY of the South.”

THIS is the title bestowed upon Anniston, Alabama, at its beginning by persons who were impressed by the provisions its founders had made for the comfort and health of its future population, and the farseeing wisdom and judgment that entered into all the plans for its development. And it has amply maintained its right to the title. It has always been as its originators designed it should be—a model in every respect. This idea was incorporated in its foundation, and has been a part of its growth up to the present time.

Anniston is a town of about 12,000 inhabitants, and its population is rapidly increasing. Its numerous industries employ about 6,000 men, and pay out over \$60,000 a week in wages. It is one of the most beautifully located towns in America. Travelers who have visited it say that no more attractive site for a city could be found anywhere in the world. It is clean, sober, moral and healthful. It has churches, schools, water works, electric lights, gas, well-paved streets, handsome stores, fine residences and all the conveniences and attractions of a modern, well-appointed city. It is the industrial and commercial center of one of the richest iron districts in the world. It is surrounded by a splendid agricultural country. It has unsurpassed advantages for the manufacture of everything into which wood and iron enter. It possesses every attraction needed to make it a delightful place for a home or a health resort.

The one remark most frequently made in regard to Anniston is that it is a “solid town,” and this is probably its most noteworthy feature. It has had no sudden, fictitious growth, no abnormal development, no unnatural stimulation to be followed by reaction and succeeding depression. Its development has been on a substantial and permanent basis. Manufacturers have been drawn here by the superior quality of Anniston iron, the abundance and cheapness of timber, and other natural advantages, as well as by its attractions as a place for a home. Its facilities and advantages as viewed from the standpoint of business are supplemented by its delightful and invigorating climate, its unsurpassed healthfulness and the beauty of its surroundings.

The following are analyses of the ores used by the Woodstock Iron Co.:

“REED’S BANK” ORE.		“SILVER CREEK” ORE.	
Metallic iron	60.02	Metallic iron	50.83
Phosphorus08	Phosphorus008
“WASHER BANK” ORE.			
Metallic iron	55.53		
Phosphorus06		

There is one peculiarity of Anniston that is very strong in its favor—the fact that the larger part of the manufacturing capital invested here is local capital. The founders of the city didn’t simply buy up some thousands of acres of land and then say to the world, “come and take advantage of the unexampled opportunities we offer, buy our stock, buy lots from us, establish manufactures.” They first showed their faith in Anniston’s advantages by investing here their own money. They built the furnaces, the cotton mill, the car shops, the car-wheel works, the water works, the Anniston & Atlantic Railroad, the Anniston & Cincinnati Railroad, etc. They built the splendid pipe-works plant that has just gone into operation, and the two new furnaces about to go into blast. As fast as they made money they have invested it right here.

Anniston is blessed with a delightful and healthful climate. It is never cold—the most delicate persons can spend the greater part of the time out of doors the year round. In summer the climate is not such as to debilitate and weaken, as is the case in the North and in less elevated localities in the South. The thermometer registers less heat, and even the same temperature is far less apprehensive here than where the percentage of humidity is greater. Its location in the mountains ensures an unfailing breeze, and no matter how warm it may be in the sun through the day, the nights are always cool. The climate seems particularly suited to those who are troubled with throat or lung diseases. A physician living near here, who had suffered for years with a severe bronchial trouble, states that he had lived in Southern California, Colorado, Florida, at Aiken, S. C., and in the South of France, and that the climate of none of these places did him as much good as that of Anniston has done. There are persons here now in vigorous health who believe they would not be living but for their removal to Anniston.

Mr. Albert Howell, of Atlanta, said recently in an interview in the Atlanta Constitution: “Anniston is the coming city. I was there last week. You cannot conceive the bustle and business of that wonderful city. Homes are being built as rapidly as possible, but the city has outgrown itself, and two thousand residences, if they were started at once, would be rented before completion. The other cities may blow and bluster, but Anniston is building, and in ten years will be the best city in Alabama. You mark this prediction.”

INFORMATION ABOUT ANNISTON, MAPS, PROSPECTUSES, &c., &c., MAY BE HAD FROM THE

ANNISTON CITY LAND COMPANY, Anniston, Ala.

Southern * Railroads.

IF the report that Mr. George S. Scott intends to resign the presidency of the Richmond & Danville Railroad is true, it will be a fortunate thing for this road if Col. T. M. R. Talcott, the first vice-president, should be selected to fill Mr. Scott's place. A continuance of the very excellent management of the road under Mr. Scott's administration would thus be ensured, for there are few abler railroad men than Col. Talcott. A few months ago Mr. John M. Robinson, the president of the Seaboard Air Line system of roads, in speaking to the editor of the MANUFACTURERS' RECORD of Mr. Talcott, said: "Now Talcott works for the Richmond & Danville and looks after its interests just as carefully and conscientiously as though he personally owned the entire road." That is the kind of man needed to properly manage great railroad interests.

Pittsburgh Looking Southward.

The iron and steel people of Pittsburgh are beginning to feel the necessity of having more direct rail connection with the iron and coal regions of the Virginias. For some time past plans have been under way looking to the building of a railroad from Lexington, Va., to Pittsburgh, and now another line is projected to reach other parts of the coal and iron districts of this section, that can easily be made tributary to Pittsburgh. The Times of that city says:

An air line from Pittsburgh to the great resources of the South is the latest thing in railroad circles. The connecting link to complete this line is the Buckhannon & Holly River Railroad, plans for which are now being made, and the road will be commenced in the spring.

The Buckhannon & Holly River Railroad is being surveyed and will be built and put into operation as soon as possible from Braxton Courthouse, W. Va., down the Elk river to Charleston, where it will connect with the C. & O., K. & O. and the Big Four roads to all points South and West. This will also give another through line from Pittsburgh to Chicago.

The road commences at Philippi, in Barbour county, West Virginia, and follows the Buckhannon river up past the town of the same name, and passes through the mountains at Hull's Gap. From there it follows the back fork of the Elk river and Sugar creek to Webster Courthouse. A branch of the road begins at Braxton Courthouse and runs up the Elk river to the mouth of the Holly, then to a pass known as Nyer's Gap, which will be crossed by a tunnel 1,000 to 1,200 feet in length. The route then runs down the Marsh fork and intersects the main line on the Buckhannon river near McColley's. The road will be 117 miles long and standard gauge.

The above facts have been gleaned from an interview with W. A. Edeburn, of Edeburn & Cooper, civil and mining engineers. Mr. Edeburn has just returned from West Virginia, where he has had a corps of engineers surveying the new route and for the past few days in making a map and profile of it. His engineers are still at work down there under the charge of W. E. Watters, of Neville Island, who is one of the incorporators of the road.

Fort Worth & Albuquerque.

The statement is afloat that the contract has been let to immediately grade and equip 100 miles of the above named road. Further than this concluding statement particulars cannot be ascertained. The News has made some considerable inquiry among contractors and railroad men generally, but they do not seem to be informed further than to name the president and engineer. They seem to think that the arrangements if made as stated are private in their nature. Mr. John Tierney, the railroad contractor, is said to be at work breaking dirt in the neighborhood of Fort Worth.—Dallas News, Nov. 19.

The News is a little behind the times. It must have missed its copy of the MANUFACTURERS' RECORD of Nov. 16, for in that issue was a letter from Mr. C. C. Black, president of the Fort Worth & Albuquerque Railroad, stating that Messrs. Mallory, Cushing & Co., of Omaha, Neb., had taken contract for building 100 miles of the road. If you want to keep up with railroad matters in the South, it is necessary to read the MANUFACTURERS' RECORD.

A Rumor of a Railroad Deal from Macon.

A dispatch from Georgia says that there is another railroad deal on foot. "The Covington & Macon Railroad is the prize for which the Richmond & Danville and the Georgia, Carolina & Northern systems are competing, and it comes from good authority that both have made liberal offers for this connection which will give the successful bidder an entrance to Middle Georgia. For the Georgia, Carolina & Northern, it will complete a line from Portsmouth, Va., to Palatka, Fla. Alex. Brown & Sons, of Baltimore, who took the bonds of the Georgia, Carolina & Northern, the Covington & Macon, and the Georgia Southern & Florida Roads, have offered the stockholders of the Covington & Macon a guarantee of three per cent. dividend on their stock for control of the road. The term of the guarantee, it is said, is fifty years. It comes from another source that the Richmond & Danville Road has offered the stockholders a six per cent. guarantee for the control of the Covington & Macon. Mr. Machen, who owns a majority of the stock, has gone to New York, and it is thought he will trade before he returns. Alexander Brown & Sons will doubtless go as far in inducements as the Richmond & Danville, or farther, for the Macon & Covington is all that is needed to give them control of a line from Portsmouth, Va., to Palatka, Fla. This line includes the Seaboard & Roanoke, the Raleigh & Gaston, the Raleigh & Augusta, the South Carolina Central, the Georgia, Carolina & Northern, now building from Monroe, North Carolina, to Athens and Atlanta, the Covington & Macon, from Athens to Macon, and the Georgia Southern & Florida, from Macon via Valdosta, to Palatka, Florida. They control all this line now but the Covington & Macon, and will go a good deal to get that. The Richmond & Danville, on the other hand, by getting the Covington & Macon, would shut out its most formidable rival and gain access to Middle Georgia at Macon. Between the two Mr. Machen is likely to get something like par for his stock, with the dividend guarantee of six per cent."

SPLendid SPECIAL TRAIN SERVICE.—The East Tennessee, Virginia & Georgia Railway system is now running the "Shenandoah Limited" from New York to New Orleans. This train carries Pullman vestibule buffet sleeping cars from Philadelphia to the Crescent City. The train leaves New York at 3 P. M., and runs via Philadelphia and Harrisburg to Hagerstown, thence over the Shenandoah Valley Road to Luray and Roanoke, thence over the Norfolk & Western to Bristol, thence over the East Tennessee, Virginia & Georgia to Knoxville, Rome and Anniston to Montgomery, and thence on to Mobile and New Orleans over the Louisville & Nashville line. This service went into effect November 24 and is timed as follows: Leave New York 3 P. M., Hagerstown 11.10 P. M., arrive Luray 2.10 A. M.; leave Roanoke 7.35 A. M., Bristol 11.20 A. M., arrive Knoxville 3.10 P. M., Anniston 9.58 P. M., Montgomery 2.25 A. M., New Orleans 12.25 noon. The night express from New York to Memphis, with Pullman palace cars, will continue to leave New York at 8 P. M., over the same route as far as Chattanooga. In conjunction with the Queen & Crescent route the East Tennessee, Virginia & Georgia runs the only solid train, the "Florida Special," from Cincinnati to Jacksonville, Fla., through Chattanooga, Rome, Atlanta, Macon and Waycross. The time is 28 hours, and travellers are only one night on the road. The "Florida Special" is made up of Pullman buffet sleepers and elegant day coaches. The St. Augustine express leaves Cincinnati at 8.05 A. M. daily, and carries Pullman cars from Chattanooga to Jacksonville. The East Tennessee system, it will thus be seen, affords the luxuries of travel, comfort and speed between all the points above named. For information apply to ticket agents throughout the country, or L. J. Ellis, general passenger agent Shenandoah Valley route, 303 Broadway, New York, or P. S. Gilmore, general Northern passenger agent, 193 Clark street, Chicago, or to B. W. Wrenn, general passenger agent East Tennessee, Virginia & Georgia Railway system, Knoxville, Tenn.

THE good citizens of Blacksburg, S. C., held a public meeting last week, as stated in a letter from there published in this issue, to resent the insult cast upon Cherokee township by the attempt on the part of the county commissioners to evade obligations to aid the Charleston, Cincinnati & Chicago Railroad. The township voted \$25,000, and this meeting demands that bonds for this sum be delivered to the railroad, now that it is completed. All honor to Blacksburg for its position!

THE Chesapeake & Ohio Railroad Co. has contracted with the Schenectady (N. Y.) Railroad Locomotive Works for ten new engines of the consolidated type, with cylinders 21x24 inches. They are to be delivered next January, and will weigh 30,000 pounds each.

The Southern Iron Boom.

North Carolina is to get a new iron furnace. A company with William Wharton, Jr., of Philadelphia, as president has purchased and leased 30,000 acres of mineral lands near King's Mountain and will develop iron mines and also, it is reported, build a furnace at that point. The company has a capital stock of \$500,000.

Railroad Construction

Aiken, S. C.—Railroad.—It is rumored that the uncompleted Carolina, Cumberland Gap & Chicago Railroad will soon be built from Edgefield, S. C., to Asheville, N. C.

Amherst, Va.—Railroad.—A survey of the Big Island, Staunton River & Franklin Railroad will be made soon.

Atlanta, Ga.—Electrical Railway.—E. C. Machen, of Machen, Ga., states that he will build a standard gauge electrical railway from Atlanta to Savannah if the right of way is procured. The electricity will be generated by the water-power of the rivers flowing in the vicinity. He will go to New York to investigate motors.

Atlanta, Ga.—Street Railroad.—It is reported that the Union Street Railway Lines have been purchased for \$600,000 by H. K. Hunter, of New York. The Union Street Railway Co. promises that rapid transit will be substituted in six months, whether the sale is confirmed or not.

Baltimore, Md.—Railroad.—The Maryland Central Railroad, it is reported, contemplates extending its road to the Lehigh coal fields. The plans for making its new station are completed. A tunnel may be built to reach center of city.

Baltimore, Md.—Street Railroad.—The North Baltimore Passenger Railway Co. once more contemplates the construction of a new line in the northern part of the city, if permission is granted by the city council.

Baltimore, Md.—Cable Railway.—The United States Construction Co., of Philadelphia, has contracted with the Baltimore Traction Co. to construct the cable street-car lines previously reported. It will cost about \$3,000,000.

Baton Rouge, La.—The Louisville, New Orleans & Texas Railroad Co. (office, Memphis, Tenn.) contemplates the erection of a new passenger and freight depot.

Berlin, Md.—It is reported that the Baltimore & Ohio Railroad Co. (office, Baltimore) has optioned 300 acres of land with the view to establishing freight yards.

Bessemer, Ala.—Dummy Railroad.—The work on the new Bessemer Dummy Line has been commenced.

Birmingham, Ala.—Dummy Railroad.—An effort is being made to consolidate all the dummy lines in the city.

Birmingham, Ala.—Railroad.—It is stated that the Birmingham, Jackson & Kansas City Railroad Co. will build shortly from Birmingham to a connection in Tennessee with the Chesapeake, Ohio & Southwestern Railroad.

Braxton C. H.—Railroad.—The Buckhannon & Holly River Railroad line is being surveyed with a view to its early construction to form part of a through line from Pittsburgh via Braxton, C. H., W. Va., to Charleston, W. Va. W. A. Edeburn & Cooper, of Pittsburgh, are the engineers.

Charleston, S. C.—Railroad.—It is stated that \$15,000 has been subscribed to aid in building a new road to Augusta, Ga.

Charleston, S. C.—Railroad.—The construction of a railroad from Charleston to Wilmington, N. C., by way of Georgetown, is said to be probable.

Charleston, S. C.—Railroad.—The Mount Pleasant & Sea View Railroad Co., mentioned last week as to hold a meeting to decide as to issuing 500 six per cent. bonds, par value \$1,000 each, maturing in 30 years, and also as purchasing the New Brighton Hotel, have decided favorably on both these matters. The company wants an engineer to supervise construction of bridges.

Chattanooga, Tenn.—Railroad.—It is stated that the Kansas City, Chattanooga & Port Royal Railroad Co., previously mentioned, has adopted a final survey.

Chattanooga, Tenn.—Railroad.—C. E. James, president Chattanooga Union Railroad, is reported as saying that if Cleveland, Bradley county and James county, Tenn., will donate \$50,000, the Chattanooga Belt Railroad will be extended to Cleveland. If \$100,000 is given the road will be extended to the Knoxville Southern.

Columbia, Tenn.—Railroad.—The Nashville, Florence & Sheffield Railroad Co. will let the contracts for the changes of track on the West Point branch.

Cumberland, Md.—Railroad.—A railroad will be constructed from Cumberland to the new paper mill mentioned elsewhere in this issue.

Dallas, Texas.—Railroad.—It is stated that the Missouri, Kansas & Texas Railroad Co. (office, Sedalia, Mo.) will extend its lines from Temple to Belton, Texas.

Dallas, Texas.—Railroad.—It is claimed that track-laying on the Dallas & Southeastern Railroad will begin some time before the 1st of January.

Florence, Ala.—Railroad.—It is reported that the necessary funds have been secured for extending the Florence Northern Railroad, and for the purchase of rolling stock.

Frankfort, Ky.—Railroad.—The Kentucky Midland Railroad Co. will shortly make a contract for the construction of their road from Paris to Owingsville, Ky.

Gadsden, Ala.—Railroad.—The Chattanooga, Gadsden & Birmingham Railroad Co., mentioned last week, will, it is claimed, shortly build from Leeds, Ala., to Menlo, Ga., to connect with the Chattanooga Southern.

Gainesville, Fla.—Railroad.—It is reported that A. L. Rice and others will build a railroad to Newnan's Lake.

Greenville, Miss.—Railroad.—The Georgia Pacific Railroad Co. (office, Birmingham, Ala.) is considering the extension of their road about 25 miles to the lower Bogue county.

Harlow, Ark.—Tram-road.—The Eureka Lumber Co. expects to build a tram-road next spring.

Houston, Texas.—Railroad.—It is reported that the Missouri, Kansas & Texas Railroad Co. (office, Sedalia, Mo.) has purchased the Texas Western Railroad, and will change from narrow to standard gauge at once, previously reported.

Kinston, N. C.—The Wilmington & Weldon Railroad Co. (office, Wilmington, N. C.) will soon advertise for proposals for building a depot.

Lewisville, Ark.—Street Railroad.—A street railroad to New Lewisville, a distance of two miles, is contemplated.

Lexington, Va.—Railroad.—The Pittsburg & Virginia Railroad Co., previously reported as projected with a view to building a railroad from Lexington to Pittsburg, Pa., has organized with Wm. A. Anderson, vice-president, and W. S. Hopkins, secretary.

Machen, Ga.—Railroad.—Part of the equipment for building the Eatonton & Machen branch of the Covington & Macon Railroad (office, Macon, Ga.), previously mentioned, has arrived and the construction will probably commence at once. The location of the road is nearly completed.

Macon, Ga.—Electrical Railroad.—George F. Work, president of the Macon City & Suburban Street Railroad Co., states that he will abandon the dummies and convert the line into an electrical road.

Macon, Ga.—Street Railway.—The parties who are endeavoring to organize the East Macon Improvement Co., as mentioned elsewhere in this issue, propose to build dummy and street car lines if they succeed in organizing the company.

Madison, Fla.—Railroad.—L. B. Plumer, W. S. Jordan and R. H. Marks have organized the Tobacco Belt Railroad Co. with a capital stock of \$350,000 to build a 90-mile railroad from Belleville to the Gulf coast of Lafayette or Levy county.

Marion, Ga.—Railroad.—The Georgia Southern & Florida Railroad Co. is reported as preparing to survey for an extension of its line from Tifton to Thomasville, Ga.

Middlesborough—Belt Railroad.—The American Association, Limited, have let contract for 11 miles additional of their belt railroad, previously reported as under construction, to Allison, Shafer & Co.

Monroe, N. C.—Railroad.—The contract for grading the Georgia, Carolina & Northern Railroad from Clinton, S. C., to the Saluda river has been let.

Nashville, Tenn.—Railroad.—A meeting of the stockholders of the South Atlantic & Northwestern Railroad will be held December 12 to hear a report of the directors relative to the building of the line.

Norfolk, Va.—Belt Railway.—A belt railway to be used by all railroads entering the city will possibly be constructed.

Ocala, Fla.—Railroad.—Thos. C. Hoge, president of the Silver Spring, Ocala & Gulf Railroad, is in Europe negotiating to secure \$3,000,000, needed for the construction of the road. It is reported that he has secured the money.

Parkersburg, W. Va.—Street Railway.—The Park City Street Railway Co., previously reported, will at once commence the extension of its road.

Plaquemine, La.—Railroad.—The Texas & Pacific Railroad Co. (office, Dallas, Texas.) will build a road connecting their main track with the Mississippi river through North Plaquemine.

Prescott, Ark.—Railroad.—The construction of a railroad to some point in Pike county is being agitated. J. T. Hipp, of Murfreesboro, Ark., can give information.

Richmond, Va.—Railroad.—The Richmond, Fredericksburg & Potomac Railroad Co. will issue \$2,500,000 of bonds for double-tracking its road, building branch roads, additional equipment, &c.

Roanoke, Va.—Railroad.—It is reported that Codwise & Allen have contracted with the Norfolk & Western Railroad Co. to double-track the road from Farmville to Pamplin City, a distance of 20 miles.

Sabine Pass, Texas.—Railroad.—It is proposed to hold a meeting of those interested in the proposed Sabine Pass & Duluth Railroad Co. at Sedalia, Mo., on December 18. Object is to build a railroad from Duluth, Minn., to Sabine Pass, Texas.

San Antonio, Texas.—Railroad.—It is rumored that the San Antonio & Aransas Pass Railroad Co. will locate their line to Brownsville, and begin building at once.

Spartanburg, S. C.—Dummy Railroad.—The company previously reported as chartered to

build an electrical railroad have decided to construct a dummy line, and work will begin shortly.

St. Patrick, La.—Railroad.—W. P. Miles, agent, contemplates building a railroad from the Arment plantation to the Vacherie, about 4 miles.

Tuscaloosa, Ala.—Railroad.—It is stated that the Louisville & Nashville Railroad Co. (office, Louisville, Ky.) will let out a contract for five miles more of the Tuscaloosa branch, to be built immediately.

Waco, Texas.—Railroad.—A company to be known as the Waco Railroad Construction Co., with capital stock of \$100,000, will probably be organized to engage in railroad construction.

Washington, D. C.—Railroad.—The surveys for the Washington branch of the Gettysburg & Harrisburg Railroad (office, Carlisle, Pa.), mentioned last week, have been completed to Westminster, Md.

Wheeling, W. Va.—Railroad.—It is reported that the Wheeling Railroad Co. will extend its tracks to the State Fair grounds.

Wilmington, N. C.—Railroad.—The Cape Fear & Cincinnati Railway Co. states that it will soon let contract for constructing 75 miles of its road. George B. Morton is engineer.

Wilmington, N. C.—Railroad.—O'Hearn Bros. & Scott, of Johnson City, Tenn., have been awarded the contract for grading and trestling the Wilmington & Weldon Railroad Co.'s branch, mentioned last week, from Greenville, Pitt county, to Kinston, Lenoir county, N. C.

SOUTH BOSTON, VA.

A Busy Town in Halifax County That is Fast Growing into Prominence.

[Spec. correspondence MANUFACTURERS' RECORD.]

SOUTH BOSTON, VA., Nov. 14, 1889.

This place, situated on the Dan river, about thirty miles from Danville, though but little known to outsiders heretofore, is fast coming to the front as an important point. It is here that the Lynchburg & Durham Railroad will cross the Richmond & Danville. The trestle is now being erected. The depot is already built, and probably by the first of the new year trains will be running.

Though South Boston is not the county seat, it is the most important town of Halifax county, and is rivalling many better known points in the quantity of the tobacco it handles annually. It has grown as a market for this staple from year to year, until the sales this year will reach six million pounds. There are four large warehouses here, and it is seldom at this season of the year the auctioneers can dispose of all the leaf brought in, to-day being the first time in ten days that the floors have been cleared. There are about 20 large prize-houses, many of them being of brick.

One factory, Edmondson's Tobacco Works, which last year manufactured over 100,000 pounds of plug tobacco, this year will probably manufacture over twice that amount. Another factory of equal size, the Shepherd-Noblin, has already contracted for the brick for a new building and will be at work as soon as the building can be erected. There is also talk of a smoking tobacco works.

The mayor of the town, Mr. Edward L. Evans, is a contractor and builder, and has a large planing mill in active operation.

In walking around this place one is impressed by the superior character of the residences and business blocks, and I doubt not, it is to the fact of Mr. Evans good taste that much of this is due.

The Barbour Buggy Works is another institution owned and operated by the same persons comprising the firm of W. D. Barbour & Co., extensive dealers in hardware, agricultural implements, etc. They also sell largely at wholesale to the country surrounding.

Stebbins & Lawson is one of the old firms of the town. They are wholesale and retail dealers in everything. That is as near as I can describe their extensive

stock without itemizing everything. They also operate the South Boston Bank.

Mr. James Traver, a resident of the town, has contracted for all the trestling for the Lynchburg & Durham Road with the exception of ten miles. He has been at work over two years upon it already, but has now nearly completed it. The work is said by railroad experts to rank with the best in the South. I said Mr. Traver had contracted, but though he is one who is constantly in the field giving the direction, and to whom the credit of the practical part of the work is due, the contracts appear in the name of Carrington & Traver and of James Traver & Co. Mr. Traver also built the bridge across the Dan at this point over thirty years ago, and it stands to-day as it stood then, a credit to its builder.

South Boston has two good hotels, with ample accommodations for the traveling public. A complete system of water works has just been built, which thoroughly protects the place from fire.

The present council, consisting of Mayor E. L. Evans, Joseph Stebbins, J. W. Easley, W. D. Barbour, W. W. Ward, A. B. Willingham and E. N. Hardy, is doing all in its power to advance the material interests and prosperity of the town. Those interested in the establishment of light manufactures, or in tobacco works, will find South Boston an excellent place to locate.

JOHN P. COFFIN.

[Special Dispatch to MANUFACTURERS' RECORD.]

BIG THINGS AT MIDDLESBOROUGH—MIDDLESBOROUGH, KY., November 26, 1889.—We have agreed to proposition of the Edes, Mixer & Heald Zinc Co., of Knoxville and Clinton, Tenn., and Plymouth, Mass., to locate large zinc works here. The capital invested will be \$75,000. We closed to-day 11 miles more of belt railroad, which is now being built, with Allison, Shafer & Co.—this road is owned by the American Association—and finally closed the Middlesborough Steel, Iron & Coal Co. furnace contract and O. W. Davis, Jr., furnace contract, and are now considering proposition from Eastern capitalists to erect basic steel works with capacity of 300 tons per day. Have several other less important works under way. A. A. ARTHUR, Pres.

GOLD MINING MACHINERY—TALLAPOOSA, GA., Nov. 21, 1889.—A new gold mining company wants prices on a ten-stamp mill, 850 lbs. each with crusher, 90 square feet silver plated copper plates, 40 horse-power locomotive boiler, 30 horse-power engine, one mine pump, 100 gallons per minute, 200 feet vertical; one tank pump, 100 gallons per minute, 40 feet vertical, to raise water; one duplex hoisting engine, single drum, cylinder about 6x8; 100 feet Howland plate rifles; 100 feet Howland tail sluice rifles. A. H. MOORE.

COTTON MILL MACHINERY WANTED—MOBILE, ALA., November 23, 1889.—We have recently organized the Mobile Mills Co., and propose to equip our mills with the very best and latest improved cotton machinery, and also to employ best skilled cotton manufacturer we can find to superintend the operations of the mill. Our authorized capital is \$500,000, but the total sum has not yet been subscribed. We hope to be ready to begin construction by February 1st. We want to find out the best places to buy our machinery. R. K. WARREN, Secty.

SHORT CREEK, W. VA., Nov. 23, 1889.—The Windsor Roofing Tile & Cresting Co., of Short Creek, W. Va., has purchased the necessary machinery for the manufacture of roofing tile and cresting and hand-pressed and common building brick. We have two veins of clay, one of which is peculiarly adapted to the manufacture of roofing and flooring tile and cresting. The clay is so dense that a brick of the standard size weighs 7½ pounds, and is as hard as flint. T. W. CARMICHAEL.

WATER AND ELECTRIC WORKS WANTED.—WICHITA FALLS, TEXAS, Nov. 9, 1889.—The city is figuring with some parties on building both water works and electric lights. The city will not do anything, but wishes to grant the franchises to some good company who will put them in and the city pay so much per light and hydrant. OTIS P. BACON.

TO ERECT LARGE TOBACCO FACTORY—STATESVILLE, N. C., November 20, 1889.—It is my intention to erect a large brick tobacco factory with all modern improvements and fixtures, &c. PHILIP B. KEY.

FORT PAYNE was visited last week by another excursion party from New England, about 200 in all. This, we believe, is the sixth excursion of this sort that has visited this wide-awake place. Two hundred men in active business cannot visit a town like Fort Payne and not see opportunities for investment. The MANUFACTURERS' RECORD congratulates Fort Payne and its management upon the success of these excursions and the energy with which it has carried them out. In no way can a growing town convince capitalists of its opportunities for investment better than by bringing the opportunities and the capitalists face to face, as Fort Payne has done.

Literary Notes.

IN an article on "Building Associations," in the December Lippincott's, Thomas Gaffney describes the benefits that accrue to the members of these institutions, tells how to form and run such associations, and points out their influence for good upon the nation at large. "Fiddler Rakes's Fiddle" is a very entertaining sketch of country life in Virginia by Rosewell Page. Charles Morris contributes an article entitled "The Power of the Future," in which he tells of the wonderful solar motor, the storage of electricity and other methods of utilizing power which may come into play in the future.

THE Atlantic Monthly for December contains: The Old Bunch of Grapes Tavern, by Edwin Lassetter Byrner; The Tragic Muse, XXXIV.-XXXVII., by Henry James; December Out-of-Doors, by Bradford Torrey; Euryalus, by Edith Wharton; The Nieces of Mazarin, II., by Hope Notnor; Architecture in the West, by Henry Van Brunt; The Begum's Daughter, XXV.-XXVI., by Edwin Lassetter Byrner; Delphi: the Locality and Its Legends, by William Cranston Lawton; Border Warfare of the Revolution, by John Fiske; School Vacations, by N. S. Shaler; Latin and Saxon America, by Albert G. Browne; Two Lyrics, by Thomas Bailey Aldrich; The Later Years of William Lloyd Garrison; The Century Dictionary; The Contributors' Club, and Books of the Month.

A HAND-BOOK FOR SUGAR MANUFACTURERS AND THEIR CHEMISTS. By Guilford L. Spencer, A. C. of the U. S. Department of Agriculture. New York: John Wiley & Sons, 15 Astor Place.

In compiling this manual Mr. Spencer has rendered a special service to all having the control of sugar-houses. The book abounds in practical information and instructive hints, deals thoroughly with the diffusion process and selected methods of analysis, and is filled with valuable reference tables. The manual is supplemented with a book of blank forms for practical use in sugar-house work. Hitherto there has not been issued in this country a compact reference book for the use of sugar workers. Mr. Spencer's book does not claim to be exhaustive, but its contents are sufficiently full and varied to foster the successful prosecution of the sugar and sorghum industries. All the essential requirements of chemical control and superintendence of sugar factories are thought to be furnished in the manual, while technical chemical tests are as far as possible avoided. The tables are mainly compiled from foreign sources, though several are of the author's own calculation. The hand-book is bound in pocket-book form, and should have a widely extended sale.

ELECTRIC LIGHT WORKS—TALLAPOOSA, GA., Nov. 18, 1889.—A contract has been signed for a 270 16-candle-power Edison electric light plant to be put in at once. G. F. QUACKINBUSH & CO.

GAFFNEY CITY, S. C.**A Live Town in a Prospering State.****A Promising Railway Project—Thriving Schools and Pushing Business Men.**

[Spec. correspond'ce MANUFACTURERS' RECORD.]

GAFFNEY CITY, S. C., Nov. 19, 1889.

There has been considerable talk recently about this place in connection with the Camden, Chester & Gaffney City Railroad, as it is here that the president and most of the directors reside, and from this point the survey of the line is being directed. The proposed terminals are Knoxville, Tenn., and Florence, S. C., both important railroad centers. When this proposed line is completed it will give not only this point, but a magnificent country upon both sides of it, an outlet east and west for the immense product of its farms. The line, running as it does for twenty miles along the Broad river rapids, will enable manufacturers to utilize the immense power of the river, which is estimated by competent experts to be in the neighborhood of 50,000 horse-power. The line will also pass the extensive iron beds of this and York counties, and thus enable them again to compete in the world's markets as they did seventy-five years ago.

Mr. J. V. Sarratt, a prominent merchant of the city, is the president and an active and pushing man, while Mr. A. N. Wood, who for some years was a merchant, but now a wealthy and prominent banker of the place, is financial agent. In speaking of Mr. Wood I ought also to state that he is endeavoring to raise \$100,000 for a cotton factory here, and thus far has \$54,000 subscribed.

Among those who have aided largely in bringing Gaffney to its present position are the firm of Carroll & Stacy, bankers and cotton buyers. They are the largest interior cotton buyers in the Carolinas, handling about 85,000 bales annually. They also do a general banking business.

Mr. S. Simon has virtually a monopoly of the lime business in South Carolina, being perhaps the second largest dealer in the entire South. He has a fine quarry and has a kiln capacity of 400 barrels per day, and is even with this behind with his orders.

R. S. Lipscomb is a heavy dealer in general merchandise, furniture, farm machinery, etc., and is always ready to do his part in advancing the interests of the town.

J. D. Gondelock has done business in the city almost since its establishment in 1873, first as a manufacturer of buggies and wagons, and since 1881 in the way of general merchandise.

The school facilities of Gaffney are excellent, there being two excellent boarding schools, and one devoted more especially to local students. The Cooper-Limestone Institute, with H. P. Griffith as principal, is meeting with excellent success. It was endowed with \$22,000 by Peter Cooper, of New York, and from that takes its name. Mr. Griffith has, for the past eight years, had charge of the institute under the auspices of the Spartanburg Baptist Association, and the school has something over a hundred young ladies as pupils.

Gaffney City Male and Female Seminary, under the charge of Messrs. McArthur, Tankersly and Sams, has more than 100 pupils, and is highly spoken of as an educational institution, drawing its students from a large territory.

The Farmers' Alliance has here a very fine warehouse covered with iron sheeting and capable of holding a very large amount of cotton. Messrs. Carroll & Stacy also have a large grade room and warehouse. Three cotton gins are in operation, as also a saw and planing mill.

Several experts are here prospecting for minerals, and some extensive developments by wealthy corporation are looked for in the near future.

The business men are all young and active and resolved to win success.

JOHN P. COFFIN.

THE MANUFACTURERS' RECORD learns that a large tract of coal land adjoining and surrounding the American Association lands at Middlesborough, Ky., have been contracted for conditionally upon report being satisfactory, by London capitalists. Their intention is to concentrate in the neighborhood of Cumberland Gap the largest coal, iron and steel industry and enterprise in America.

Southern Financial News.**NEW BANKS.**

Americus, Ga.—It is stated that a new Alliance Bank is to be established with \$100,000 capital.

Austin, Texas.—The establishment of a national bank with \$500,000 capital is being agitated.

Belton, Texas.—A national bank has been organized with B. A. Ludlow, president.

Camilla, Ga.—A bank has been organized.

Comanche, Texas.—Another national bank with a capital stock of \$100,000 is to be organized.

Flaton, Texas.—The First National Bank has been organized with \$50,000 capital.

Fort Payne, Ala.—The People's Savings Bank has been organized with a capital stock of \$50,000, half of which is paid in.

Fort Worth, Texas.—It is rumored that a bank to be known as the Lone Star National Bank will be organized with a capital stock of \$350,000.

Greenville, Texas.—The First National Bank will increase its capital stock to \$250,000 shortly. The Greenville National will increase its stock to \$225,000 at once.

Indianola, Miss.—A new bank has been started.

Kingston, Ga.—A new bank is to be started.

Norfolk, Va.—The Bank of Commerce will increase its capital.

Ozark, Ark.—The Arkansas Valley Bank has been incorporated with a capital stock of \$50,000.

Quanah, Texas.—It is stated that another bank with a capital of \$100,000 will be started here shortly.

Baltimore, Md.—The Atlantic & George's Creek Consolidated Coal Co. has declared a dividend of five cents a share, payable after December 2.

Charleston, S. C.—The Charleston Mining & Manufacturing Co. (phosphate miners and manufacturers, capital \$1,000,000) has declared a dividend of \$1.50 a share.

Frederick, Md.—The Farmers and Mechanics' National Bank has declared a dividend of five per cent. for the six months ending on the 18th of November.

Louisville, Ky.—The Kentucky Wagon Manufacturing Co. has declared a semi-annual dividend of 3½ per cent., payable after December 2.

Montgomery, Ala.—The Eufaula Cotton Mills have declared a semi-annual dividend of five per cent., payable on January 1, 1890.

New Orleans, La.—The Consumers' Ice Co. has declared a dividend of ten per cent.

Richmond, Va.—The Richmond, Fredericksburg & Potomac Railroad Co. has declared a dividend of three per cent. for the six months ending September 30, 1889, and payable January 1, 1890.

Americus, Ga.—The citizens of Americus will vote on December 18 as to whether \$30,000 worth of 30-year bonds shall be issued for the purpose of erecting a new city hall and a public school.

The Richmond, Fredericksburg & Potomac Railroad Co., Richmond, Va., will issue \$2,500,000 of bonds for improvements and building new road.

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, NOV. 27, 1889.

Sterling.—	Commercial.
Selling.	479½@480
60 days..... 481	
3 days..... 485½	
Francs.—	Commercial.
Selling.	525@524½
60 days..... 521½	
3 days..... 518½	
Reichmarks.—	Commercial, 93½@94
Guilders.—	Commercial, 39½@39¾

FREDERIC TAYLOR & CO.**Bankers and Brokers,**

84 BROADWAY,

NEW YORK CITY.

Members of the New York Stock Exchange.

P. J. GOODHART & CO.

(Members of the New York Stock Exchange.)

24 BROAD STREET, NEW YORK.

Orders executed in New York and Boston for buying and selling stock of the

Anniston City Land Co.We are prepared to carry same on **MARGIN.**

We make a specialty of all

Southern Securities.**An Eight Per Cent. Income.**

Kansas City Property Exclusively.

8% REAL ESTATE BONDS. 8%

Profit Participating. Interest Guaranteed. April and October Coupons payable in Boston.

8% GUARANTEED FIRST MORTGAGES. 8%**25% Special Deposit Additional Security**

With American Loan & Trust Co.

6% Improved Business Property Bonds. 6%

Office and Banking Building, with 50 per cent. stock bonus.

Other Choice Investments yielding 6 per cent. and Upwards.

Send for monthly circular, pamphlets, references and papers.

WINNER INVESTMENT CO.

Capital \$500,000.

WILLIAM H. PARMENTER.

GENERAL AGENT,

50 State Street, Boston, Mass.

CHAS. ROBERTS, President.

B. T. KIMBROUGH, Vice-President.

Merchants & Farmers' Bank, Oxford, MISS.

Subscribed Capital, \$100,000.

Paid-up Capital, \$50,000.

CORRESPONDENTS: New York Western National Bank; New Orleans State National Bank.

SPECIAL ATTENTION PAID TO COLLECTIONS.**WILSON, COLSTON & CO. Bankers & Brokers.**

(Members of Baltimore Stock Exchange.)

216 E. Baltimore Street, Baltimore, Md.

Investment and Miscellaneous Securities a specialty, and large lines handled. Exceptional facilities in dealing in all classes of Southern Bonds. Loans on Collateral Securities negotiated. Quotations and information furnished on application, and correspondence invited.

J. WM. MIDDENDORF.

Members Baltimore Stock Exchange.

WM. B. OLIVER.

MIDDENDORF, OLIVER & CO. BANKERS AND BROKERS,

No. 213 E. German Street, [KEYSER BUILDING.]

Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

THE AMERICAN DEVELOPMENT COMPANY.

PAID UP CAPITAL \$300,000.

45 BROADWAY, NEW YORK.

Having command of both American and European capital, is in a position to successfully negotiate the sale of the Securities of Southern Railways, Water-works, Gas and Electric Light Companies, and also Lands and Water Powers.

It pays special attention to the organizing of companies based on first-class industrial enterprises, and obtaining the capital therefor. Correspondence solicited.

J. BARTLETT COOKE, Pres. W. A. MINER, Vice-Pres. FREDERICK M. STEVENS, Sec'y.

CHAS. WENDELL, Treas.

FRED. S. DUNN, Asst. Sec'y.

Address AMERICAN DEVELOPMENT CO., 45 Broadway, New York.

ALEX. BROWN & SONS

ESTABLISHED 1811.

BALTIMORE, MD.

BROWN BROTHERS & CO.

New York, Philadelphia and Boston.

Foreign and Domestic Bankers,

AND MEMBERS OF THE

Baltimore, New York and Philadelphia Stock Exchanges.

(Private wire between Baltimore, Boston, Philadelphia and New York.)

Interest allowed on deposits of Banks, Bankers, Corporations and Individuals. Railroad, Municipal and Other Loans Negotiated, and advances made on Grain, Cotton, Stocks and Bonds, and other approved collaterals.

BUY AND SELL BILLS OF EXCHANGE on Great Britain and Ireland, France, Germany, Holland, British West Indies and other foreign points.**Issue Commercial and Travelers' Letters of Credit.**

IN STERLING, available in any part of the world: IN FRANCS, for use in Martinique and Guadeloupe; and IN DOLLARS, for use in this country, Canada, Mexico, the West Indies and South America.

Make Cable and Telegraphic Transfers of Money.

Drafts Collected in all parts of the World.

BROWN, SHIPLEY & CO., LONDON.

Financial Agents of the United States Government in England.

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, NOV. 27, 1889.

	BID.	ASKED.
N. Carolina 4's.....	99½	100
Norfolk Water 8's, C.....	126	128
Ga. Car. & N. S.....	102½	103½
Wil. Col. & Aug. 6's.....	118½	119½
Atlanta & Char. Income 6's.....	104½	105
Col. & Green. 2d, 6's.....	130	131
Va. Midland, 1st, 6's.....	130	131
Va. Midland, 3d, 5-6.....	100	100½
Va. Midland, 5th, 5's.....	117½	118
Char. C. & Aug. 2d, 7's.....	109	110
West Va. Central 1st, 6's.....	81½	82
Ga. Pacific 2d.....	106½	107
Cape Fear and Y. Valley 6's, A.....	106½	107

JOHN L. WILLIAMS & SON, BANKERS,

—RICHMOND, VA.

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

DESKS

Office Furniture.

DERBY & KILMER DESK CO.,

93 Causeway St.,

Opp. Lowell Depot,

BOSTON.

W. A. WEST, Cashier.

H. P. BRANHAM, Assistant Cashier.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

E. M. Shaw and W. D. Caldwell, of Nashau, N. H., are investigating with a view to locating a cotton mill at some point in the South.

ALABAMA.

Anniston—Laundry.—It is reported that another steam laundry will be established.

Anniston—Brick Works.—N. D. Harvey will establish brick works to have a daily capacity of 40 M bricks. The plant will cost between \$30,000 and \$30,000. About 75 men will be employed.

Atalla—Iron Furnace.—The Southern Iron Co., Jere Baxter, Nashville, Tenn., president, lately reported as purchasing the charcoal iron furnace of the Atalla Iron & Steel Co., contemplates building another furnace.

Bessemer—Iron Furnaces.—The De Bardeleben Coal & Iron Co., operating two coke iron furnaces and building two more; the Bessemer Iron & Steel Co., about completing two coke iron furnaces, and the Little Belle Iron Co., about completing one charcoal iron furnace, will meet on December 10 to consider a consolidation.

Birmingham—New Town.—The East Avondale Land Co. has been incorporated by Arthur W. Smith, E. L. Shephard and J. W. Sloss, Jr., to lay off a new town to be called East Avondale and for manufacturing purposes. The capital stock is to be \$30,000.

Birmingham—Iron Furnace.—The Vanderbilt Steel & Iron Co. will commence work on its 100-ton iron furnace to be built at East Birmingham, as previously stated. Mr. Meisner is superintendent.

Demopolis—Oil Mill.—The Demopolis Oil Co. will rebuild at once its oil mill reported in last issue as burned.*

Eufaula—Telegraph Line.—A telegraph line is being constructed from Eufaula to Ozark.

Fairview—Coal Mines and Coke Ovens.—The Traylor Coal & Coke Co. has been incorporated to develop the coal mines recently opened by W. P. Larramore and others at Inman, a new town 1½ miles south of Fairview. The incorporators are John Postell, of Cartersville; J. M. Couper, G. M. Traylor and W. E. Ragan, of Atlanta, and Mr. Larramore. The capital stock is \$150,000. The company will build a large number of coke ovens at an early date.

Florence—Iron Furnace and Rolling Mill.—Abram S. Patterson and others, of Philadelphia, Pa., previously reported as purchasing an interest in the Florence Cotton & Iron Co. are, it is stated, arranging to build a \$300,000 rolling mill and to complete the W. B. Wood iron furnace.

Florence—Carpet Mill.—The rumor previously reported of a carpet mill to be built in Florence is not confirmed.

Fort Payne—Sash, Door and Blind Factory.—The Alabama Lumber Co. will erect a sash, door and blind factory.

Greensborough—Shoe Factory.—The erection of a shoe factory is projected.

Jacksonville—Iron Mines.—W. H. Forney is opening iron mines on his property near Jacksonville.

Mobile—Cotton Mill.—The Mobile Mills Co. has been recently organized to build a cotton mill with G. B. Clark, president; R. K. Warren, secretary, and James McPhillips, treasurer. The capital stock is to be \$500,000. It expects to begin erecting mill in February next.*

Mobile—Paving, etc.—The Mobile Coal Co.

states that it has not as yet received the contract for cleaning and paving the streets for a period of five years, as mentioned in last issue, but may secure it later.

New Market—Planing Mill.—W. F. Domaby is erecting a planing mill.

Sheffield—Iron Furnace.—The Hattie Ensley iron furnace will be put in blast soon.

Talladega—Cotton Mill.—The Talladega Cotton Manufacturing Co., reported in last issue as incorporated to erect a cotton mill, has secured a site and will, it is claimed, soon commence building. It is to be a 5,000-spindle mill.*

Talladega—Iron Furnace.—It is reported that a new English company will build an iron furnace.

Talladega—Machine Shops.—The Talladega Iron & Steel Co. is reported as to erect general machine shops.

Troy—Iron Works.—The Troy Iron Works will shortly put in another planer, several lathes and other machinery.

ARKANSAS.

Buffalo City—Mining.—E. C. Cook is developing mineral lands near Buffalo City.

Flippin—Lead Mines.—Mr. Young, of Memphis, has purchased the Vanzandt lead mines near Flippin.

Fordyce.—The Fordyce Lumber Co. has been incorporated by E. E. Moore, L. Kirkland and W. E. Farrow with a capital stock of \$25,000.

Harlow—Lumber Mill.—The Eureka Lumber Co. expects adding molding machine to its mill next spring.*

Helena—Wells.—The name of the stock company reported in last issue as being organized to sink wells for gas, oil or water is the Helena Gas, Water & Power Co. W. Staub is president; B. B. Waddell, vice-president, and W. M. Neal, secretary. The capital stock is \$10,000.

Marion County—Mineral Land.—Michael Young, of Union, S. C., has purchased mineral lands.

Newport—Saw Mill.—The Morrison & Decker Manufacturing Co., lately reported as chartered, has launched a floating saw mill.

Newport—Stave Factory.—E. N. Stump, of Springfield, Mo., lately mentioned as purchasing 1,400 acres of timber lands, will probably start a stave factory.*

Wilmar—Gin.—J. T. D. Anderson will put in a new cotton gin and other machinery this winter.

Yellville—Zinc and Copper Mines.—W. L. Potter, D. Railsback and R. T. Cray will develop zinc and copper mines on Crooked creek.

Yellville—Lead Smelter.—A co-operative company has been organized with L. Matlock, manager, to erect a lead smelter. This is probably the smelter previously reported as to be erected in Marion county.

FLORIDA.

Apalachicola—Mill.—S. Tate and Dr. McLean, of Pensacola, contemplate erecting a mill.

Blue Springs—Phosphate Mines.—The Marion County Land Co., of Louisville, Ky., is preparing to develop phosphate mines on its property.

De Funiak Springs—Saw Mill.—Orr & Clark have started a saw mill and will probably put in additional machinery later.

De Funiak Springs—Saw Mill.—John L. McKinnon is erecting a saw mill to have a capacity of 25 M feet per day.

Dunnellon—Phosphate Mines.—A syndicate has purchased 160 acres of phosphate lands from Frank W. Ross for \$40,000.

Fernandina—New Factories.—The Fernandina Development Co. will, it is said, survey sites for several factories.

Gainesville—Lumber Mills.—W. R. Steckert, representing J. Cummer & Sons, of Cadillac, Mich., previously reported as purchasing 40,000 acres of timber lands, is selecting sites for lumber mills to develop the property.

Jacksonville—Publishing.—The Florida Pathfinder Publishing Co. has been incorporated by W. W. Stowe, C. L. Mitchell and B. M. Miller to publish the Florida Official Pathfinder. The capital stock is \$15,000.

Key West—Sewerage System, etc.—The city has issued \$500,000 of bonds for sewerage, grading and paving purposes. The mayor can give information.

Leesburg—Canal.—The Ocklawaha Canal & Drainage Co., lately reported as incorporated to construct a canal, expect to reclaim 100,000 acres of sugar lands.

McIntosh—Crate Factory.—I. Y. Pettey has moved his crate factory from Longwood to McIntosh.

Melrose—Rice Mill.—Herbert Blake has added a rice mill to his moss factory.

Ocala—Novelty Works.—Chandler, Younge &

Co. have increased their capital stock, and will enlarge their novelty works.

Ocala—Paint Works.—The Coleman & Gibbs Lead Co., of Chicago, Ill., is investigating with a view to erecting paint works for the manufacture of lead paint.

Ocala—Electric-light Plant.—A stock company will probably be organized to erect an electric-light plant.

Ocala—Dry-kiln.—W. T. Taylor will erect a dry-kiln at his saw mill of 10 M feet daily capacity.

Tarpon Springs—Gas Works.—The report that gas works would be built is a mistake. It probably originated from the fact that T. S. Disston, and others are about to put in private gas plants.

GEORGIA.

Albany—Cotton Factory.—John Leary, of Philadelphia, Pa., is making efforts to secure the erection of a large cotton factory in Albany.

Americus—Cotton Mill.—A \$100,000 stock company will be organized shortly to secure the erection of a cotton mill and hotel.

Atlanta—The Piedmont Real Estate & Investment Co. has been incorporated by H. P. Smart, L. O. Stevens, S. W. Goode and others to deal in real estate. The capital stock is \$12,000.

Blakely—Oil Mill.—The Farmers' Alliance, of Early county, will erect a cotton-seed oil mill next year.

Brunswick—Fertilizer Warehouse.—J. W. Wainwright, of Chicago, Ill., lately reported as contemplating erecting a large fertilizer factory, states that he will build a large warehouse for storing fertilizers instead of a factory.

Columbus—Bridges.—The Central Railroad & Banking Co. (office, Savannah) will build iron bridges across Rocky, Tobesofkee and Tagrort creeks.

Columbus—Paving.—M. M. Moore, clerk of council, will receive proposals until December 3 for paving crossings on Broad street with Belgian blocks.

Corbin—Saw Mill.—William Patterson and Henry Dunnahoo have erected a saw mill.

Crawford—Oil Mill and Fertilizer Factory.—J. L. Jarrell is endeavoring to organize a stock company to erect a cotton-seed oil mill and fertilizer factory next spring.

Dahlonega.—The Dahlonega Gold Mining Co., of London, England, has, it is stated, purchased gold lands near Dahlonega for \$70,000.

Dalton—Marble Quarry.—A company is negotiating to purchase the Maddox marble quarry.

Empire—Dry-kilns.—The Empire Lumber Co., lately mentioned as putting in new saw mill and planing machines, has also erected 4 new dry-kilns.

Griffin—Electric-light Plant.—The Thomson-Houston Electric Co., of Atlanta, will erect an electric-light plant.

Jolly—Gin.—R. W. Hale will rebuild his cotton gin reported in this issue as burned.

Macon—Knife Factory.—Mr. Little, of New Hampshire, has been prospecting at Macon and Atlanta with a view to locating a knife factory.

Macon—Chemical Works.—The Georgia Chemical Works, of Augusta, will begin the erection of the chemical and fertilizer works lately mentioned next spring. The estimated cost is \$100,000.

Macon—Tin Mine.—The Empire State Mining Co. has been incorporated by J. H. Furman, W. B. Sparks, Henry Horne and others to develop a tin mine in an adjoining State. The capital stock is \$13,000.

Macon—Carriage and Wagon Factory.—It is reported that a large carriage and wagon factory will be moved to Macon in January next and a stock company organized to operate it.

Macon—Bridge.—Efforts are being made to organize the East Macon Improvement Co. to build an iron bridge across the Ocmulgee river at Second street at an estimated cost of \$40,000, and purchase and improve 650 acres of land.

Richland—Land.—The Americus Investment Co., of Americus, Ga., has, it is reported, purchased 600 acres of land from Major Myers, and will make extensive improvements.

Rome—Bolt and Nut Factory.—D. G. Mitchell, of Anniston, Ala., is making arrangements to erect a bolt and nut factory.

Rome—Artesian Well.—The Standard Scale Works and the Rome Rolling Mills are sinking an artesian well.

Rome—Sewerage System.—R. F. Hartford, of Chattanooga, Tenn., will prepare plans and estimates for a sewerage system.

Savannah—Granite.—Contract for furnishing granite for the new Independent Presbyterian Church has been let to the Quincy Granite Co., of Macon. The contract amounts to \$40,000.

Savannah—Land.—The Savannah Land Co. has been incorporated by James Farie, Jr., W. F.

McCauley and William Lattimore to deal in real estate. The capital stock will be \$30,000.

Sheffield—Straw Goods Factory.—C. H. Buchanan contemplates enlarging his straw goods factory.

Tallapoosa—Electric-light Plant.—Contract has been let for erecting the electric-light plant lately mentioned to the Edison Co. G. F. Quackinbush & Co. can give particulars.

Tallapoosa—Gold Mine.—A new gold mining company has been organized. A. H. Moore can give particulars.*

KENTUCKY.

Carrollton—Electric-light Plant.—Efforts are being made to erect an electric-light plant. The secretary of the Commercial Club can give particulars if anything is done.

Clay City—Electric-light Plant.—The Kentucky Union Land Co. has let contract to the Edison Electric-light Co. to furnish an incandescent electric-light plant of 1,000 lights capacity. This is probably same plant lately reported as to be erected by Kentucky Union Railroad Co., the Land Co. and the railroad company being closely connected.

Covington—Machine Shops.—The Kentucky Central Railroad Co. (office, Cincinnati, Ohio) is reported as about to commence work on its new machine shops.

Covington—Packing House.—The Ruttle-Schlickman Packing Co. has been incorporated by D. Ruttle, William Schlickman, J. L. Osterholt and others to conduct a slaughtering and packing business and manufacturing lard. The capital stock is to be \$50,000.

Cynthiana—Electric-light Plant.—The Cynthiana Electric-light & Power Co., previously reported as to erect an electric-light plant, has let contract for same to the Thomson-Houston Electric Co., of Boston, Mass.

Dawson—Coal Mines.—The name of the company reported in last issue as purchasing 3,000 acres of coal lands is the Grand Rivers Co., previously reported as to build a town to be called Grand Rivers. J. L. Hall, of Plymouth, Mass., can furnish information.

Flemingsburg—Electric-light Plant.—The city has let contract for the erection of an electric-light plant to the Thomson-Houston Electric Co.

Glasgow—Oil Refinery.—The Kentucky Southern Oil & Gas Co., of Louisville, previously mentioned as to build an oil refinery, provided the citizens subscribed for \$18,000 of its bonds, is reported as about to commence the erection of the refinery near Glasgow, and to lay off a new town to be called Oil City.

Greenup—Stave Mill.—The stave jointing mill mentioned in last issue as erected by George Stephens & Co. was moved from another point to Greenup by them.

Henderson—Land.—The Henderson Land Co. has been incorporated by H. F. Pringle, J. D. Elliot, R. C. Blackwell and others to succeed the Henderson Land & Improvement Co.

Hopkinsville—Cotton Mill.—A stock company will be organized, it is reported, to erect a cotton mill.

Lexington—Water Works.—S. A. Charles, superintendent of the Lexington Water Works Co., has prepared plans and estimates for the enlargement of the water works.

Louisville—Furniture Factory.—Joseph Schapinski is erecting a furniture factory 75x100 feet.

Louisville—Wells, &c.—The South Park Residence Co., previously reported as to build a hotel at South Park, will sink several wells for natural gas and an artesian well; it will also construct a dam for the South Park lake.

Louisville—Planing Mill.—J. N. Struck & Bro., mentioned in last issue as putting a new engine and boiler in their planing mill, have also put in other machinery and intend adding more later.

Middlesborough—Zinc Works.—The Edes, Mixer & Heald Zinc Co. (office, Knoxville, Tenn., and works at Clinton, Tenn., and Plymouth, Mass.) will move its works to Middlesborough, erecting a plant of 400 retorts capacity per day. 200 hands will be employed and \$75,000 invested.

Middlesborough—Fire-brick Works.—The Edes, Mixer & Heald Zinc Co., of Knoxville, Tenn., mentioned in this issue as to erect zinc works, will also establish fire-brick works to have a capacity of 10 M bricks per day.

Middlesborough—Basic Steel Plant.—The basic steel plant previously mentioned as under consideration by Eastern capitalists will have capacity of 300 tons a day if erected. Negotiations are pending with the American Association, Limited.

Middlesborough—Furnace.—Jas. P. Witherow, Pittsburgh, Pa., has received contract to build the two furnaces previously reported as to be built by the Middlesborough Steel, Iron & Coal Co., subject to pending negotiations, and a telegram to the MANUFACTURERS' RECORD says these negotiations have just been fully settled.

Middlesborough—Coal and Iron.—English capitalists have contracted for 3,000 acres of coal land adjoining Middlesborough, subject to expert investigation. If reports are satisfactory they will establish large coal, iron and steel enterprises. The American Association, Limited, can give particulars.

Middlesborough.—The Star Paint, Glass & Wall Paper Co. has been incorporated with James T. Fisher, president, and R. H. Williams, manager, to deal in paints, oils, glass and wall paper. The capital stock is \$20,000.

Middlesborough.—The Allison & Shafer Construction Co., of Chattanooga, Tenn., who have the contract to change the course of the Big Yellow creek, as previously stated, has received contract to remove 500,000 cubic yards of dirt from two of the hills, to be used in filling up some portions of the old channels of that creek.

Middlesborough—Bottling Works, Ice Factory, &c.—Bottling works, ice factory and a broom factory will be included in the 14 different industries mentioned in last issue as to be located in the building to be erected by the Middlesborough Power Co.

Middlesborough—Brush Factory.—W. R. Davis, Newark, N. J., contemplates starting a brush factory.

Milldale—Preserve Factory.—The Snider Preserve Co., of Covington, has purchased a warehouse which it will use for a preserve factory.

New Hope—Distillery.—Bartley, Johnson & Co. have purchased the whiskey distillery of G. M. Hagan & Co., and will, it is reported, enlarge it next year to double the capacity.

Owensboro—Car Works.—Robert Leamon will probably organize a stock company to erect car works.

Princeton—Stave Factory.—M. J. and L. Dodd, of Ladoga, Ind., are prospecting with a view to purchasing timber lands and erecting a stave and heading factory.

Richmond—Water Works.—J. H. Mead is negotiating to build the water works previously mentioned.

Russellville—Grist Mill.—Alexander Gooch is erecting a grist mill.

Union—Distillery.—John G. Roach, of Louisville, is enlarging his whiskey distillery.

LOUISIANA.

Abbeville—Sugar Refinery.—The erection of a central sugar refinery is projected.

Baton Rouge—Levee Work.—Contract for constructing the Pecan Grove levee in East Carroll parish, lately mentioned, has been awarded to P. J. Trezevant at 18 cents per cubic yard.

Cherry Ridge—Grist Mill and Gin.—J. H. & D. N. Holloway are erecting a grist mill and cotton gin.

Kentwood—Saw Mill.—Bridewell & Co., of Oayka, Miss., mentioned in last issue as to erect saw mill, expect to move their plant to Kentwood early next year and make some improvements.

New Orleans—Electric-light Plant.—The Louisiana Electric Light & Power Co., previously reported as to reorganize and enlarge its plant, has changed its name to the Louisiana Electric Light Co. and will increase the capacity of plant from 2,000 arc and 6,500 incandescent lights to 4,000 arc and 40,000 incandescent. The Fort Wayne Jenney Electric Light Co., of Fort Wayne, Ind., will furnish the machinery, as previously stated.

New Orleans—Mining.—The Silver Creek Mining & Milling Co. has been incorporated by A. Lesseps, S. D. Pool, E. A. Pike and others to develop gold, silver and other ores. The authorized capital stock is \$1,000,000.

New Orleans—Mint.—Director of the United States Mint Leach has recommended that \$30,000 be expended in improving the New Orleans mint. James H. Windrim, supervising architect, Treasury Department, Washington, D. C., can give particulars when definitely decided upon.

New Orleans—Breweries.—A syndicate is endeavoring to purchase the local breweries, and has, it is stated, offered \$800,000 for the Southern brewery, \$600,000 for the Louisiana, and \$400,000 each for the Weckerling, La Fayette and Pelican breweries.

Opelousas—Artesian Well.—An artesian well will probably be sunk. The mayor can give information.

Pattersonville—Planing Mill.—The Patterson Sash, Blind & Door Factory, Limited, lately mentioned as purchasing the Thornton planing mill, states it will possibly enlarge same next summer.

Shiloh—Gin.—Neal Key has rebuilt his cotton gin previously reported as burned (under Farmer-ville).

MARYLAND.

Annapolis—Packing-house.—The Exchange Oyster Co., reported in this issue as incorporated at Baltimore, will erect an oyster packing-house.

Baltimore—Packing-house, etc.—The Chesapeake Improvement Co. has been incorporated by E. A. Osborn, of Middletown, N. J.; Richard Sewell, J. B. Keplinger, W. T. Roberts and others for packing fruits, vegetables and propagating oysters and terrapin. The capital stock authorized is \$1,000,000.

Baltimore—Packing-houses.—The Exchange Oyster Co. has been incorporated by H. M. Williams, J. W. Freeman, T. B. Schall and others to establish oyster packing-houses. The capital stock is \$100,000. Packing-houses will be erected at Crisfield and Annapolis.

Baltimore—Compound Factory.—The Aurora Standard Heat & Light Co. has been incorporated by W. P. Hagadorn, P. H. Brown, S. W. Stanton and others to manufacture a compound for heating and lighting purposes. The capital stock is \$500,000.

Baltimore—Can Factory.—The Reconvert Can Co. has been incorporated by W. P. Kirk, J. B. Wright, C. J. Wiener and others. The capital stock is \$20,000.

Baltimore—Fertilizer Works.—The Waring Manufacturing Co., of Colora, previously reported as to move the acid chambers of its Colora works to its new works in Baltimore, has commenced making the change.

Berlin—Creamery.—A stock company has been organized, with S. H. Quillan as president, to erect a creamery.

Conowingo—Paper Mill.—The Susquehanna Water Power & Paper Co. is erecting a large sulphite mill at its paper mill.

Crisfield—Packing-house.—The Exchange Oyster Co., reported in this issue as incorporated at Baltimore, will erect an oyster packing-house.

Cumberland—Bridge.—H. M. Fuller, clerk to board of county commissioners, will receive proposals for constructing a wrought iron Pratt truss bridge of two spans, each 45 feet, with a 12-foot roadway.

Laurel—Creamery.—Frank Miller will start a creamery.

Perryman—Creamery.—It is proposed to change the cheese factory into a creamery.

Rock Springs.—Kaolin Mines.—A syndicate has leased kaolin lands from Silas Love and commenced developing.

Rowlandville—Creamery.—Swisher Bros. are erecting a creamery near Rowlandville. William Burling, of Oxford, Pa., has contract for machinery.

Williamsport—Flour Mill.—Steffey & Findlay are erecting a 75-barrel flour mill.

MISSISSIPPI.

Brookhaven—Cotton Factory.—The erection of a cotton factory is talked of.

Corinth—Saw Mill.—W. H. Haynes is rebuilding his saw mill recently destroyed by a boiler explosion.

Durant—Creamery and Ice Factory.—The Durant Creamery, Cheese & Cold Storage Co. has been organized to erect a creamery and ice factory. The capital stock is \$5,000.

Greenville—Box Factory.—C. L. Merrill will erect a wooden box factory.

Vicksburg—Cotton Mill.—W. McArthur, of St. Louis, Mo., has offered to secure \$50,000 of the stock for a \$100,000 cotton mill company if the remainder is raised in Vicksburg.

West Point—Gin Factory.—B. A. Smith, of Rutherford, Tenn., states that he will move his gin factory lately mentioned to West Point in January or February of next year provided suitable arrangements can be made.

NORTH CAROLINA.

Antioch—Saw and Planing Mill.—J. F. & D. M. McKay, of Red Springs, mentioned in last issue as to move their saw mill to Antioch, will erect a new saw mill and may add a planing mill later.*

Asheboro—Cotton Mill.—The erection of a cotton mill is projected.

Asheville—Stone Quarries.—J. Gall, Jr., will open the quarries on the Vanderbilt property to furnish stone for the buildings previously reported to be erected by George Vanderbilt.

Greensboro—Publishing.—T. B. Keogh, J. E. Boyd and C. B. Montgomery have incorporated the Greensboro North State to publish the North State. The capital stock is \$5,000.

High Point—Saw Mill.—Hammer & Teague have erected a saw mill at their flour mill.

King's Mountain.—The Philadelphia capitalists previously reported as purchasing and to develop the mining right to 2,500 acres of iron ore land at the southern end of King's mountain in both the Carolinas, have organized a \$500,000 stock company with William Wharton, Jr., of Philadelphia, president. It has secured additional lands. Reported that the company will also build a furnace at King's Mountain.

Murphy—Marble Quarries.—The Kimsey Co. is developing marble quarries.

Oxford—Cotton Factory.—J. M. Currin, J. B. Williams, H. W. Kronheimer and others are organizing a stock company to erect a cotton factory on the co-operative plan.

Oxford—Pants Factory.—It is reported that Dr. D. F. Dixon, superintendent, will start a pants factory at the Oxford Orphan Asylum.

Reidsville—Box Factory.—A. H. Motley & Co. are erecting a box factory in the rear of their tobacco factory.

Salem—Grist Mill.—F. and H. Fries have put roller machinery in their grist mill and a 100 horse-power engine.

Swansborough—Saw and Planing Mill, &c.—Pringle & Stevens Bros. contemplate erecting a saw and planing mill with grist mill and cotton gin attached.*

Tarboro—Electric-light Plant.—The town has sold bonds to erect the electric-light plant mentioned in last issue, and will let contract for machinery December 4. W. E. Fountain, mayor, can give particulars.

Webster—Kaolin Factory.—It is reported that a large kaolin factory will be erected.

Winston—Furniture Factory.—Cicero Tise & Co., previously reported as to enlarge their furniture factory, have built a new factory 50x169 feet.

SOUTH CAROLINA.

Anderson—Foundry.—R. F. Driver will erect an iron foundry to be used in connection with his machine works.

Anderson—Electric-light Plant and Water Works.—The Anderson Water Works Co. has been organized to build the water works previously reported. Contract has been let to Roddy & Whitner, of Rock Hill. The company will probably put in an electric-light plant.

Charleston—Mattress Factory.—The Charleston Mattress Manufacturing Co. has been incorporated by T. H. McCall, Miss Katie Williamson and B. B. Brown to manufacture mattresses.

Conway—Furniture Factory.—The erection of a furniture factory is projected.

Edgefield C. H.—Telephone Line.—The Parksville, Modoc & Edgefield Telephone Co. has commenced work on its telephone line reported in last issue.

Gaffney City—Hoop Factory.—S. Simon will add hoop machinery to his barrel factory.*

Greenville—Bridge.—Contract for building the iron bridge across the Reedy river at Main street, lately mentioned, has been awarded to the Southern Bridge Co., of Birmingham, Ala., at \$7,475.

Lexington—Cotton Mill.—The Red Bank Mills, lately mentioned as to probably put in new machinery, expect to add 10 looms.

Port Royal.—D. C. Wilson, J. A. Fincken, J. J. Cummings and others are organizing a board of trade.

TENNESSEE.

Adolphus—Flour Mill.—Cook & Pickle, operating a grist and saw mill, contemplate putting in a short system roller flour mill.*

Carter's Depot—Boom and Lumber Mill.—The Pennsylvania capitalists lately reported as leasing a site from A. J. Lacey for a saw mill have organized the Watauga Boom & Lumber Co. and will construct a boom in the Watauga river and erect a large lumber mill. Anderson & Smaling have contract for boom.

Chattanooga—Shoe Factory.—H. T. Ormsted is in correspondence with parties who contemplate erecting a shoe factory in Chattanooga.

Chattanooga—Medicine Factory.—L. Gerstle, of Bluff City, reported in last issue as to move his medicine factory to Chattanooga about January 1, will erect a two-story building, 30x100 feet. The capacity of the factory will be increased.*

Chattanooga—Factories.—It is reported that the Lookout Rolling Mill Co. and the Williamson Lumber Co. will move their plants to East Chattanooga; also that a boot and shoe factory at Lynn, Mass., a sash and door factory in Ohio, horseshoe factory in Massachusetts and an ax and edge tool factory will be moved to East Chattanooga. The East Chattanooga Land Co. can give information.

Chattanooga—Iron Furnace and Steel Works.—The Southern Iron Co., previously mentioned as to probably build two new iron furnaces in Wayne county and to improve the Roane Iron Works, is reported as to shortly commence work on an iron furnace in Wayne county and is completing arrangements for the remodeling of the Roane works.

Clarksville—Tobacco Factory.—William Taylor will start a plug tobacco factory.

Columbia—Bridge.—Contract for the superstructure of the new iron bridge across the Duck river, previously reported, has been let to the Pittsburgh Bridge Co., of Pittsburgh, Pa., at \$7,849. Holmes & Wilkes, of Nashville, have contract for substructure, as lately mentioned.

Floraton—Saw Mill.—W. D. Travis & Co. will erect a circular saw mill.*

Green Brier—Grist Mill.—J. C. Burch is erecting a grist mill.

Holder's Store—Lumber Mill.—The Tennessee Saw & Planing Mills, reported in last issue as to enlarge its plant, has erected a saw mill in Van Buren county, and will add a matching machine in the spring.*

Hollow Rock Saw Mill.—G. T. Bullock will rebuild his saw lately reported as burned (under Huntingdon.)

Iron City—Rock Quarries and Lime Works.—

Moffett & Mayfield will open rock quarries and erect lime works.

Iron City—Brick Works.—H. P. Moffett has purchased the pressed brick works of Finney & Stevenson, and will put in new machinery.

Johnson City—Laundry.—J. I. Sheburn & Bro. will start a steam laundry.

Knoxville.—William Caswell, Alexander McMillan, E. P. King and others have incorporated an investment company to deal in real estate.

Knoxville—Water Works.—The company represented by E. Woltman, of New York, N. Y., mentioned in last issue as to build water works at West Knoxville, has made a proposition to furnish North Knoxville with water.

Nashville—Publishing.—Parker & Porter have commenced the publication of the Sunday Morning.

Nashville—Land.—The Elliston place of 360 acres has been purchased by a syndicate for \$100,000.

Oliver Springs—Iron Furnace.—It is rumored that Eastern capitalists will erect a large iron furnace.

Oliver Springs—Coal Mine.—The Indian Creek Coal Co. is erecting machinery to develop its coal mines.

Sherman Heights—New Industries.—The erection of a furniture factory, foundry and a planing mill is projected.

Trenton—Publishing.—E. E. Benton will publish the Register.

TEXAS.

Belton—Creamery.—Mr. Mason, of Lampasas is organizing a company to erect a creamery.

Breckenridge—Grist Mill and Gin.—The Grove Alliance Gin & Mill Co., of Stephens county, has been incorporated by J. B. Carter, J. A. M. Freeman, J. H. Borden and others to erect a cotton gin and grist mill.

Bryan—Water Works.—The Bryan Water, Ice & Electric Light Co., lately reported as incorporated to build water works and erect an ice factory and electric-light plant, has commenced the erection of its stand-pipe.

Clarksburg—Canning Factory.—The stock company lately mentioned as organized by H. B. Wright and others to erect a canning factory has let contract for machinery to the Plummer Manufacturing Co., of Leavenworth, Kans. The capacity is to be 10,000 cans daily.

Coleman—Coal Mine.—The Silver Moon Coal & Mining Co. will develop its coal mine, lately mentioned, at once.*

Corsicana—Cotton Mill.—A bonus of \$50,000 and exemption from taxation for 30 years is offered for the erection of a \$200,000 cotton factory. The mayor can be addressed.

Dallas—Printing Office.—The Times Publishing Co. will put a new perfecting press in its printing office.

Decatur—Canning Factory.—The Decatur Canning Co. has been incorporated by H. H. Halsel, S. A. McDonald, R. S. Vance and others with capital stock of \$25,000.

Del Rio—Bridge.—The Commissioners' Court of Val Verde county will receive proposals until December 16 for the erection of an iron bridge 100 feet long and either 14 or 16 feet wide; also bridge 24 feet long and 20 feet wide.

Fort Worth—Publishing.—The Fort Worth Evening Mail has increased its capital stock from \$10,000 to \$20,000, and has commenced the erection of a new building for its printing and publishing office.

Fort Worth—Sash, Door and Blind Factory.—Allen Shuman, of Kokomo, Ind., previously reported as to establish a large factory in Fort Worth, states that a company known as the Los Star Novelty Works will begin on March 1, 1895 the erection of a sash, door and blind factory, has a plant in Kokomo which will be either moved to the Fort Worth factory.

Galveston—Sewerage System.—Plans are being prepared for a sewerage system. The mayor can give particulars.

Gonzales—Water Works and Electric-light Plant.—The Gonzales Water-power Co. has been incorporated to develop the water power of the Guadalupe river by building a dam, as previously mentioned. The company proposes to furnish power for water works and an electric-light plant.

Greenville—Publishing.—Rev. J. W. Hill, Frank McElreath and J. A. Summers will publish the Daily Advocate.

Henderson—Fire-brick and Tile Works.—Fire brick and tile works will be established by J. Dawson, of Calhoun, Mo., and L. C. Arnold, Henderson.

Henderson—Flouring Mill.—A flour mill is projected.

Houston—Grading, etc.—George R. Bringham city secretary, will receive proposals until December 23 for grading, graveling and curbing certain streets.

Iowa Park—Flour Mill and Elevator.—The erection of a flour mill and grain elevator talked of.

Laredo—Foundry and Machine Shops.—Geo-

W. Bonham and associates, lately reported as organizing a \$50,000 stock company to build foundry and machine shops, have incorporated the Laredo Foundry & Machine Co.

New Birmingham—Planing Mill.—G. R. McDonald is putting new machinery into his planing mill.

Pilot Point—Canning Factory.—The \$25,000 stock company lately reported as organized to erect a canning factory has been incorporated as the Pilot Point Canning Co.

Santa Anne—Coal Mines.—The Texas Prospecting & Mining Co. has contract to develop coal lands for the Choctaw Coal & Iron Co. and will shortly commence operations.

San Augustine.—The Union Co-operative Association has been incorporated by W. W. Brooker, J. P. Childress, W. A. Baker and others with a capital stock of \$30,000.

VIRGINIA.

Allisonia—Iron Mines.—The Virginia Development Co., of Philadelphia, Pa., has erected a jigg machine at its Allisonia mines.

Balcony Falls—Cement Works.—Locker & Co. state they do not contemplate at present rebuilding their cement works at Glasgow.

Balcony Falls—New Industries.—It is stated that work will commence on the iron furnace, cement works, planing mill and tannery previously reported as to be built at Glasgow as soon as Gov. Fitzhugh Lee, of Richmond, takes charge of the Rockbridge Co. as president, about January 1, 1890. Mr. Lee or Wm. A. Anderson, vice-president, Lexington, Va., can give particulars.

Blacksburg—Flour Mill.—Kandoe & Harless have put new machinery in their flour mill.

Branchville—Dry-kilns.—The Southampton Lumber Co. will erect three dry-kilns.

Buena Vista—Iron Furnace.—It is reported that a Pennsylvania iron manufacturer will move to Buena Vista and establish an iron furnace.

Buena Vista—Planing Mill.—A party in Campbell county contemplates moving his planing mill to Buena Vista.

Buena Vista—Rolling Mill.—Mr. Jones, of Lynchburg, is said to be negotiating to locate a rolling mill in Buena Vista. The Buena Vista Co. can give particulars if true.

Buena Vista—Wagon Factory.—Philip S. Wise, of New Market, contemplates moving his wagon factory to Buena Vista.

Danville—Stemmers.—The Kinney Cigarette Co., of Baltimore, Md., will erect a large tobacco stemmer.

Danville—Machine Shops.—The Atlantic & Danville Railroad Co. and the Danville & East Tennessee Railroad Co., owned by the same people, will, it is reported, shortly commence work on their joint shops lately mentioned.

Franklin—Peanut-cleaning Factory.—The Farmers' Alliance Peanut Cleaning & Storage Co. has been incorporated with C. Beal, president; J. C. Wills, secretary, and W. W. Ellis, treasurer.

Goodson (P. O., Bristol, Tenn.)—Iron Furnace. H. W. Bates, vice-president of the South Atlantic & Ohio Railroad Co., has made a proposition to build an iron furnace on certain conditions which, it is reported, have been accepted.

Norfolk—Canal.—J. C. Short and E. T. Lynch have purchased for a New York syndicate the Dismal Swamp canal for \$85,000. The syndicate intends rebuilding the locks and deepening and widening the canal.

Radford—Iron Furnaces and Rolling Mill.—The Radford Land & Improvement Co. has purchased the property of the West Radford Land & Improvement Co. containing 200 acres and 150 acres additional. The purchase was made to give Philadelphia parties a tract of 100 acres on which to erect two iron furnaces and a rolling mill.

Roanoke—Brewery.—A Philadelphia (Pa.) syndicate is reported as to erect a \$50,000 brewery in the Hyde Park addition.

Roanoke—Engine Works.—The Roanoke Engine & Machine Co. is the name of the \$100,000 stock company reported in last issue as being organized by Mr. Tubbs, of Philadelphia, Pa., to manufacture his patent three-cylinder engine. All the stock has been subscribed for.

Salem—Brick-yard.—George E. Hoyes, of Washington, D. C., has started a brick-yard.

Suffolk—Car Works.—The syndicate previously reported as having optioned 100 acres of land with a view to building large car works, has purchased it, it is stated, the "Jericho" property for that purpose.

Vicar's Switch—Lime Works.—Plunkett, Kinzer & Schaeffer are building lime works.

Warm Springs.—M. E. Ingalls, of Cincinnati, Ohio, president of the Chesapeake & Ohio Railroad, and W. P. Anderson, also of Cincinnati, have purchased the Warm Springs property for \$78,000.

Wytche County—Water Works, etc.—The Bertha Zinc Co., of Pulaaki, previously reported as purchasing the Falling Cliff zinc property, has erected water works, washers, roasters, etc., at its mines.

WEST VIRGINIA.

Ceredo—Bridge.—The West Virginia & Ironton Railroad Co. will build a bridge across the Ohio

river at Ceredo. U. S. engineers will shortly examine the site.

Charleston—Bridge.—The Charleston & South Side Bridge Co. has been incorporated with B. L. Wood, Jr., of Pittsburgh, Pa., president; S. M. Snyder, vice-president, and W. O. Daum, secretary, to build a toll bridge across the Kanawha river. The capital stock is \$50,000.

Clarksburg—Coal Mines and Coke Ovens.—John Maurice, of Pennsylvania, has secured the mineral rights on 300 acres of coal lands belonging to B. B. Stout, and will mine coal and probably erect coke ovens. He has taken an option on the property for \$40,000.

Clay County—Land.—Hon. J. N. Camden has purchased about 100,000 acres of coal and mineral lands from the heirs of Hon. Allen T. Caperton, and is negotiating to purchase a large tract of land in Randolph, Webster and Braxton counties belonging to the Hoffman estate.

Elizabeth—Oil Well.—Philadelphia parties have leased 5,000 acres of oil lands from Hon. J. N. Camden, of Parkersburg, and will sink a 2,500-foot oil well.

Elkins—Telephone Line.—A telephone line will probably be constructed to St. George and other points.

Ellenborough—Saw Mill.—D. A. Sprinkle is negotiating for a saw mill site.

Fairmont—Bottling Works.—The property mentioned in last issue as purchased by the Reymann Brewing Co., of Wheeling, for bottling works and storage, will be used for storage only.

Grafton—Water Works.—A Philadelphia company has submitted a proposition to build the water works lately mentioned. The mayor can give particulars.

Harper's Ferry—Flour Mill.—S. W. Lightner has purchased the flour mill and property of the Harper's Ferry Milling Co. for \$5,300.

Hebron—Oil Wells.—J. G. George, of Pittsburgh, Pa., has leased 1,500 acres of oil lands near Hebron and purchased drilling machinery to develop same.

Logan C. H.—Land.—It is reported that a company has recently purchased 200,000 acres of land.

Marshall County—Gas and Oil Lands.—Mr. Howard has leased 2,180 acres of gas and oil lands and expects to lease 1,000 acres more. The leases are made, it is stated, for the West Virginia Natural Gas Co., of Wheeling, who will develop.

Martinsburg—Electric-light Plant.—The Edison Electric Illuminating Co., reported in last issue as incorporated to erect an electric-light plant, has contract to light the streets and public buildings. Both arc and incandescent dynamos will be put in.

Parkersburg—Canning Factory.—Julius Baker & Co., of Pittsburgh, Pa., have purchased the Wells farm, containing 207 acres, and will lay off a new town to be called Bakerville, and erect a large canning factory.

Ritchie C. H.—Oil Well.—A company represented by A. S. McDougal is preparing to sink an oil well.

Ronceverte—Sash, Door and Blind Factory.—The St. Lawrence Boom & Manufacturing Co. will operate the sash, door and blind factory of D. W. Weaver.

Wheeling—Basket Factory.—George Sleigh, of Coshocton, Ohio, will start a basket factory.

Wheeling—Pulp Mills.—A. T. Denison, representing a Northern company, is prospecting for sites for three or more pulp mills.

Wheeling—Carriage Factory.—Charles J. Elig & Co. have purchased the building which they use as a carriage factory and will remodel it.

Wyoming County—Timber Land.—The Little Kanawha Lumber Co., of Parkersburg, is reported as to purchase large tracts of timber land.

Building Notes.

Alexandria, Va.—A branch of the American Building, Loan & Tontine Association, of Memphis, Tenn., has been organized.

Americus, Ga.—The Masons contemplate selling the Furlow Female College building and erecting a new Masonic temple.

Americus, Ga.—R. F. Sams is erecting ten dwellings 16x32 feet each.

Anderson, S. C.—Moss & Jackson will soon erect a brick warehouse.

Anniston, Ala.—The Anniston City Land Co. have awarded the contract for erecting their new building, previously mentioned, to J. Black & Sons, of Chattanooga, Tenn. The cost will be about \$50,000.

Arcadia, La.—The Memphis Building, Loan & Savings Association has been organized with A. S. Atkins as president, and Wm. Miller, secretary and treasurer.

Atlanta, Ga.—Austin & Boylston have the contract for building the Confederate Home, previously reported. Their bid was \$22,000.

Atlanta, Ga.—L. De Give will enlarge his opera-house, and is having plans prepared.

Baltimore, Md.—The contract for the erection of grammar school No. 20, previously mentioned, has been awarded to James B. Yeatman at \$19,884.

Baltimore, Md.—B. F. Bennett, builder, will erect a brick building to cost \$8,000; Wm. P. Harvey, a dwelling to cost \$25,000; J. V. Pryor, four two-story houses; John Stack, four three-story houses; Wm. Butaler, five three-story brick dwellings to cost \$15,000; H. Clay Tunis, a dwelling to cost \$6,500; James G. Wilson, a dwelling to cost \$10,000; J. H. McAfee, five three-story dwellings to cost \$15,000; plans have been prepared by J. H. McAfee for seven three-story dwellings to cost \$40,000; also for four three-story dwellings to cost \$24,000; by George Archer for ten dwellings to cost \$40,000.

Birmingham, Ala.—M. Weil & Bro. will erect four two-story houses to cost \$2,500 each.

Birmingham, Ala.—The First Methodist Church, previously mentioned, has plans prepared for the erection of its new edifice to cost \$100,000.

Cameron, Texas.—A new courthouse is to be built by Milam county.

Carthage, N. C.—The contract for rebuilding the Moore county courthouse has been awarded to Wm. McKinnon for \$6,850.

Chattanooga, Tenn.—The Chattanooga Investment, Loan & Banking Co. will erect a brick block at East Chattanooga.

Chattanooga, Tenn.—A union passenger depot will, it is reported, be erected at East Chattanooga. The East Chattanooga Land Co. can give particulars.

Childress, Texas.—James T. Van Hoy invites proposals for constructing a courthouse to cost \$40,000. Bids will be opened December 18.

Cloverport, Ky.—Hotel.—Beside the hotel previously reported, the same company will erect two rows of cottages, clubhouse and other buildings by 1st of May next.

Collinsville, Ala.—A building and loan association has been organized.

Cordele, Ga.—Dooly county will vote December 12 on the question of issuing bonds to the amount of \$12,000 to build a new courthouse.

Dallas, Texas.—It is stated that an Episcopal Church to cost \$100,000, a Jewish Temple to cost \$100,000, and another building to cost \$170,000 will be erected.

Dallas, Texas.—G. H. Plowman will erect a residence to cost \$5,000.

Danville, Va.—Hotel.—It is rumored that a new hotel will be built.

Elizabethton, Tenn.—Dr. Felix L. Oswald will erect a large residence.

Fairburn, Ga.—L. S. Roan will receive proposals for the erection of a schoolhouse until December 2, 1889. Bruce & Morgan, of Atlanta, Ga., are the architects.

Frederick, Md.—The Maryland Institute for the Deaf and Dumb will construct a gymnasium.

Fortress Monroe, Va.—Hotel.—The new hotel to be erected by John Chamberlain, previously mentioned, will be commenced shortly. Hottelaw Bros., of Washington, are the lowest bidders. Their bid is \$450,000.

Friar's Point, Miss.—Hotel.—A new hotel has just been completed. Robinson Bros. contemplate erecting a large brick store.

Glades Spring, Va.—A Baptist orphanage will soon be located and perhaps erected at Glades Springs. The mayor of Richmond can give information.

Greenville, Miss.—The Y. M. C. A. have purchased a lot and intend to erect a building thereon.

Greenville, S. C.—Case & Litton have been awarded the contract for building the new wing to the Greenville Female College. It will be a large three-story building.

Greenville, S. C.—The board of trustees of the Greenville Female College are receiving bids for an addition to that institution.

Griffin, Ga.—The erection of a new rectory for St. George's P. E. Church is contemplated.

Hamilton, Texas.—The Episcopalians contemplate the erection of a church.

Havre-de-Grace, Md.—A syndicate will erect 250 houses, and also propose to build a factory.

Henrietta, Texas.—Clay county will erect a new jail, part of which will be occupied by the United States federal court.

Henrietta, Texas.—Clay county will erect a new jail.

Humboldt, Tenn.—E. T. Transom will build a hotel 60 feet front.

Jacksonville, Fla.—Jefferson county will probably erect a new jail.

Jasper, Tenn.—Hotel.—A new hotel will be erected 150x90 feet. T. A. Havron can probably give information.

Johnson City, Tenn.—P. C. Hoss has the contract for erecting the new Charleston, Cincinnati & Chicago Railroad station previously mentioned. Work will begin immediately.

Knoxville, Tenn.—The Tennessee Medical College contemplates the erection of a new college building.

Knoxville, Tenn.—The University of Tennessee is contemplating the erection of a new building.

Knoxville, Tenn.—J. N. Betterton & Co. will erect a five-story brick building 45x100 feet.

Laurel, Md.—Hotel.—James A. Clark will erect a hotel to cost \$15,000.

Little Rock, Ark.—E. J. & C. M. Butler will build a brick dwelling to cost \$10,000.

Louisville, Ky.—Hotel.—The Northern parties who desire to purchase the First Baptist Church property, previously reported, have increased their offer to \$140,000. It is rumored that they desire to erect a hotel or a warehouse.

Louisville, Ky.—The Commercial Club proposes to erect the auditorium mentioned last year at a cost of \$600,000.

Louisville, Ky.—The University Club will erect a clubhouse to cost \$50,000.

Louisville, Ky.—The Colored Y. M. C. A. is contemplating the erection of a building to cost \$30,000.

Louisville, Ky.—Hotel.—Frederick Senning contemplates adding two stories to the four-story Senning's Hotel.

Louisville, Ky.—The erection of an apartment house to cost \$100,000 is contemplated.

Louisville, Ky.—The Portland Savings & Loan Association has been incorporated with F. W. Wrampelmeier as president, and August Stein, secretary.

Macon, Ga.—It is stated that Mr. Edward Wolff will erect a four-story building on the corner of Mulberry and Fourth streets.

Macon, Ga.—Mrs. Helen O. Newsome is having plans prepared for the erection of a three-story building 40x210 feet.

Macon, Ga.—Architect Woodruff is at work on plans for a four-story building, 60x105 feet, for Wm. Wolf, and three residences for other parties to cost about \$4,000 each.

Marion, S. C.—The Merchants & Farmers' Savings Bank, previously reported, will erect a farmers' warehouse 100x25 feet.

Middlesborough, Ky.—The contract for erecting the building intended for the city hall, engine-house and News office has been let, and the structure is to be completed by December 15.

Middlesborough, Ky.—A new exposition building to cost \$10,000 will shortly be erected. The contract has been let. The Middlesborough Hotel Co. will erect a restaurant building to cost \$5,700.

Middlesborough, Ky.—The Middlesborough Land & Improvement Co., previously mentioned, is erecting large brick building with a frontage of 50 feet. The first floor will be occupied by the First National Bank.

Milldale, Ky.—It is reported that a Cincinnati (Ohio) capitalist is building a grain warehouse 200x70 feet by 20 feet high.

Milledgeville, Ga.—An industrial school for girls is to be established. The State has appropriated \$25,000 and the old governor's mansion.

Nashville, Tenn.—Lewis T. Baxter, J. H. Bruce and others have applied for a charter to incorporate the Farmers' Saving, Building & Loan Association.

Nashville, Tenn.—The board of publication of the Cumberland Presbyterian Church will erect a publishing house. P. H. Manlove can give information.

New Orleans, La.—An annex to McDonogh school No. 7 will probably be built.

Opelika, Ala.—A new jail for Lee county will be erected.

Piedmont, Ala.—A building and loan association has been organized with \$20,000 capital stock.

Quanah, Texas.—The erection of two churches is contemplated.

Richmond, Va.—The city will erect a new public school building.

Roanoke, Va.—The Exchange Building & Investment Co. has been incorporated with a capital stock of \$10,000, with the privilege to increase to \$100,000. Joseph T. Engleby is president.

Rockville, Md.—The question of erecting a courthouse for Montgomery county is being agitated.

Rolling Fork, Miss.—A branch of the Interstate Building & Loan Association, of Columbus, Ga., has been organized with N. T. Baggett as president.

Russellville, Ky.—A \$15,000 opera-house is to be erected.

Salem, Va.—The Salem Land, Loan & Trust Co. has been incorporated. The capital stock is \$500,000. Geo. Allen is manager.

Sandersville, Ga.—The city council has passed an ordinance authorizing the issue of \$5,000 in bonds for the purpose of erecting a public building.

Savannah, Ga.—Henry C. Cunningham and Alexander R. Lawton, Jr., have incorporated the Chatham Investment Co., capital stock \$25,000.

Savannah, Ga.—Hotel.—Architect Preston, of Boston, Mass., has prepared the plans for the proposed Union Society Hotel, which will cost about \$55,000.

Savannah, Ga.—The contract for rebuilding the Independent Presbyterian Church, previously mentioned, has been let to M. T. Lewman & Co. for \$114,152.

Savannah, Ga.—I. F. Cavanaugh, Thomas Gadsden and others have incorporated the Oglethorpe Real Estate Co., capital stock \$30,000, to purchase and improve real estate, &c.

South Pittsburg, Tenn.—The Perry Stove Works contemplates the erection of a three-story brick storage building 60x240 feet.

Spartanburg, S. C.—D. E. Converse will erect a dwelling to cost \$15,000; A. H. Twitchel, a dwelling to cost \$12,000.

Spartanburg, S. C.—The Converse College Co., previously mentioned, is remodeling and improving the old St. John's College at a cost of about \$20,000, which will be re-opened September, 1890, as the Converse Female College.

Summerville, Ga.—The citizens of Summerville will ask the legislature for permission to issue \$10,000 of bonds to provide for the construction of a town hall and two schools.

Summerville, S. C.—The town is contemplating the issuing of bonds amounting to \$9,000 for the purpose of building a town hall and market-house.

Texarkana, Texas.—The St. Louis, Arkansas & Texas Railroad Co. (office, St. Louis, Mo.) will probably erect a building to be used for general offices.

Titusville, Fla.—A clubhouse is being erected by C. B. Corey, of Boston, Mass.

Tuskegee, Ala.—The directors of the Orphans' Home are contemplating changing the situation of the institution and erecting new buildings probably in a different part of the State.

Union, S. C.—A branch of the Southern Mutual Building & Loan Association, of Atlanta, Ga., has been organized.

Union, Ky.—John G. Roach, of Louisville, reported elsewhere in this issue as enlarging his distillery, will build a new bonded warehouse to hold 6,000 barrels.

Vernon, Texas.—A courthouse to cost \$40,000 and an opera-house to cost \$30,000 are being built.

Wadesboro, N. C.—The Wadesboro Building & Loan Association has been organized with Frederick Hargrove as president.

Walden's Ridge, Tenn.—Hotel—Eli Sawyer, of Hill City, is erecting a hotel.

Warrenton, Va.—The courthouse of Fauquier county, recently reported as burned, will be rebuilt. R. H. Downman can give information.

Washington, D. C.—The Baptists have purchased a lot corner of South Carolina avenue and Ninth street, on which they will erect a church to cost \$25,000; also a lot on Maryland avenue and Fourteenth street, on which will be built a chapel.

Washington, D. C.—Jas. H. Windrim, Treasury Department, will receive proposals until December 4, 1889, for putting in place new copper covering on the deck roofs of the Bureau of Engraving and Printing building.

Washington, D. C.—Hotel.—A Washington syndicate will erect a hotel at Tacoma Park to cost \$15,000. A. Goenner & Co. made the plans.

Washington, D. C.—The Washington Loan & Trust Co. is having plans prepared for an office building to be erected on the site of the old St. Cloud building previously mentioned. It will cost \$200,000.

Washington, D. C.—Melville Church will erect a dwelling to cost \$10,000; the National Union Fire Insurance Co., an office building to cost \$60,000—plans by Glenn Brown; A. Lully, 3 three-story dwellings to cost \$35,000; R. H. Waring, 3 three-story dwellings to cost \$16,000; A. P. Fardon, two dwellings to cost \$11,000; Mrs. S. H. Stevens, a dwelling to cost \$16,000—J. H. Lane has contract; J. H. Lane, builder, a dwelling to cost \$8,000; plans have been prepared by A. G. Enner & Co. for a store and dwelling to cost \$5,000; by W. Claude Frederic, for one dwelling to cost \$5,000, for two to cost \$10,000, for two to cost \$10,300; by T. F. Schneider, for a house to cost \$8,000. W. H. Manogue will erect three dwellings to cost \$15,000.

Winston, N. C.—The Winston-Salem Building & Loan Association has been organized with J. W. Buxton as president.

NEW COTTON MILL—TALLADEGA, ALA., Nov. 23, 1889.—The Talladega Cotton Mfg. Co. is being organized, and the capital stock for a 5,000-spindle mill is being taken rapidly. A site has been selected and the erection of a building will soon follow. Mr. O. J. Hinkley will be glad to receive estimates for machinery, including a 150 horse-power engine and two boilers.

The Fort Worth Loan & Construction Co.

CAPITAL, FULLY PAID, \$100,000.

We are prepared to furnish plans and construct large buildings, public or private, and when desired carrying part of the cost of construction as a deferred payment.

PRINCIPAL BUSINESS OFFICE, FORT WORTH, TEXAS.
EASTERN OFFICE, EQUITABLE BUILDING, BOSTON.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Barrel Machinery.—S. Simon, Gaffney City, S. C., wants barrel machinery.

Boiler and Engine.—L. Gerstle, Bluff City, Tenn., wants a 25 horse-power boiler and a 15 horse-power engine.

Boiler and Engine.—Post & Keller, Knoxville, Tenn., expect to purchase a 12 horse-power boiler and engine after January 1.

Boiler and Engine.—O. J. Hinkley, Talladega, Ala., wants prices on a 150 horse-power engine and two boilers for a cotton mill.

Boiler.—Pringle & Stephens Bros., Swansborough, N. C., want a steam boiler.

Coal Mining Machinery.—The Silver Moon Coal & Mining Co., Coleman, Texas, want cages and coal cars or trucks.

Complete Mining Plant.—A new gold mining company wants prices on a ten-stamp mill, 850 lbs. each with crusher, 90 square feet silver plated copper plates, 40 horse-power locomotive boiler, 30 horse-power engine, one mine pump, 100 gallons per minute, 200 feet vertical; one tank pump, 100 gallons per minute, 40 feet vertical, to raise water; one duplex hoisting engine, single drum, cylinder about 6x8; 100 feet Howland plate rifles and 100 feet Howland tail sluice rifles. Address A. H. Moore, Tallapoosa, Ga.

Complete Oil Mill Outfit.—The Demopolis Oil Co., Demopolis, Ala., wants complete outfit to rebuild its burned cotton-seed oil mill.

Cotton Mill.—R. K. Warren, secretary Mobile Mills Co., Mobile, Ala., wants the address of manufacturers of cotton mill machinery.

Cotton Mill.—O. J. Hinkley, Talladega, Ala., wants estimates on machinery for a 5,000-spindle cotton mill.

Dummy Cars.—H. P. Camp, Gainesville, Ga., wants prices on dummy cars.

Electrical Cars.—H. P. Camp, Gainesville, Ga., wants prices on electrical cars.

Electric-light Plant.—W. E. Fountain, mayor, Tarboro, N. C., will receive proposals until December 4 for furnishing an electric-light plant.

Engine.—E. N. Stump, Springfield, Mo., wants a second-hand engine in good condition.

Engine.—J. F. & D. M. McKay, Red Springs, N. C., want a 35 or 40 horse-power engine.

Engine and Rails.—The Eureka Lumber Co., Harlow, Ark., expects to purchase engine and rails next spring for tram-road.

Fence Ornaments.—E. M. Jordan, East Bangor, Me., wants the address of parties making cast and malleable iron picket tops and other ornaments for iron fencing.

Flour Dresser.—A. M. Cook, Adolphus, Tenn., wants prices on a flour dresser to rebolt one barrel per hour.

Foundry and Machine Shop.—Gill & Stewart, Raleigh, N. C., operating a foundry and machine shop, will probably want some machinery.

Grist Mill.—W. J. Conerly, Sanford, S. C., wants prices on a grist mill.

Grist Mills.—Ray Rushton, Montgomery, Ala., wants prices and information on corn grist mills, scourers, rollers, bolters, &c.

Head Blocks.—Barcroft & Dupree, Brownsville, Tenn., want a set of head blocks.

Hoist.—S. Simon, Gaffney City, S. C., wants a hoist for hoisting rock from quarry to tram-road, 28 feet.

Hoop Machine.—S. Simon, Gaffney City, S. C., wants a machine for making flat hoops.

Iron Tools, &c.—W. R. Burgess, Greensboro, N. C., wants for a customer one iron lathe about 14 inches by 6 feet; one lathe about 20 inches by 10 feet, and one lathe about 24 inches swing by 16 feet; one 32 and one 36-inch drill press; one iron shaper; one 20x30 inches by 50x6 feet iron planer; a lot of pipe cutting and threading tools for cutting pipe up to 6 inches. Second-hand tools might do if in good condition.

Lathe and Planer.—Homes & Hicks, Cordele, Ga., want a lathe that will turn 10 or 12 feet long and swing about 24 inches, a drill press for heavy work and a planer.

Matcher.—The Tennessee Saw & Planing Mills, Holder's Store, Tenn., want a matching machine for 4 and 6-inch ceiling and flooring. A second-hand machine will do if in good condition.

Mining Outfit.—The Oneida Coal & Coke Co., Oneida, Tenn., wants a full mining outfit, including a small engine and cars.

HETHERINGTON & NASON,

Manufacturers and Dealers in Supplies for

Boiler Makers, Machinists, Railroads, Steam & Gas Fitters

Boiler Plate and Tank Iron, Lap-Welded Pipe and Boiler Tubes, Boiler and Sheet Iron Rivets, Steam Brass Goods and Engine Trimmings, Iron Valves and Fittings, Pipe Workers' and Machinists' Tools, Wood and Iron Pulleys, Belting, Hose and Packing, SEWER PIPE, FIRE BRICK and CLAY.

405 and 407 Elm Street, Dallas, Texas.

Zell's Improved Boilers

Cheapest and best Steam Generators on the market.

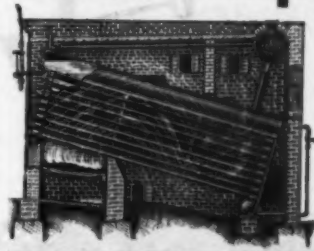
RESULTS GUARANTEED.

CAMPBELL & ZELL CO.

IRON FOUNDERS,

Manufacturers and Engineers,
ALICE ANNA & EDEN STREETS,
BALTIMORE, MD.

Send for circulars.



WATER POWER UTILIZED.

at any distance from source by ELECTRICAL TRANSMISSION. The simplest, cleanest and cheapest to operate for Mining, Street Railways, Electric Lighting and Manufacturing.

C. S. VAN NUIS, Constructing Electrical Engineer,
18 CORTLANDT STREET, NEW YORK.

O. R. MAKEPEACE & CO.
ARCHITECTS and MILL ENGINEERS
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.

LOCKWOOD, GREENE & CO.
MILL ENGINEERS,
NEWBURYPORT, MASS.

PLANS AND SPECIFICATIONS FURNISHED FOR THE CONSTRUCTION OF EQUIPMENT AND ORGANIZATION OF COTTON AND WOOLEN MILLS.

Molding Machine.—The Eureka Lumber Co., Harlow, Ark., will probably purchase a 7-inch molding machine next spring.

Oil Mill.—The Globe Machine Co., 35 Broadway, New York, N. Y., wants the address of manufacturers of linseed and peanut oil machinery.

Petroleum Refinery.—The Globe Machine Co., 35 Broadway, New York, N. Y., wants the address of manufacturers of machinery for a petroleum refinery.

Pipes.—The Princeton Gas & Mining Co., Princeton, Ky., will bore for natural gas, and if found will purchase pipes for utilizing it.

Planing Machine.—Pringle & Stephens Bros., Swansborough, N. C., want a planing machine.

Pottery.—W. H. Gibbs, Jr., Columbia, S. C., wants for a customer machinery for making flower pots, jugs and all kinds of pottery.

Punch, &c.—W. H. Shafer, 167 Gay street, Knoxville, Tenn., wants a second-hand power punch to punch 1/2-inch hole in 1/2-inch iron, and shears to cut 1/2x1 1/2-inch bar iron.

Rails.—H. P. Camp, Gainesville, Ga., wants prices on 1 1/2 miles of rails for a dummy or electrical car line.

Roofing.—J. R. Campbell, Neely, Tenn., wants prices on roofing material.

Saw, &c.—H. W. Williams, Gibraltar, N. C., wants a 52-inch circular saw, some belting and pulleys.

Saw Mill.—J. F. & D. M. McKay, Red Springs, N. C., will purchase a saw mill to cut 10 or 12 M feet daily.

Saw Mill.—W. D. Travis & Co., Floraton, Tenn., want a latest improved circular saw mill for cutting poplar and oak.

Saws.—Post & Keller, Knoxville, Tenn., expect to purchase a planer, band saw, cut-off and rip saws after January 1, 1890.

Starch Factory.—The Globe Machine Co., 35 Broadway, New York, N. Y., wants the address of manufacturers of potato starch machinery.

Stave and Spoke Machinery.—E. N. Stump, Springfield, Mo., wants prices on second-hand bucker for staves and turning machinery for spokes.

Street Railways.—Niel Dahl, Punta Gorda, Fla., wants information and cost of constructing and operating both horse and electric railways.

Tan Bark Machinery.—F. W. Evans, 814 F. street, N. W., Washington, D. C., wants prices on machinery for extracting the tanning properties from oak bark.

Toothpick Machinery.—A. F. Johnson, Clinton, N. C., wants information about toothpick machinery.

Wire Fence.—Waxfield & McCaslin, Tullahoma, Tenn., want to correspond with manufacturers of woven wire fencing.

The BOOMER & BOSCHERT
KNUCKLE JOINT
PRESS
FOR Baling
Cloth, Paper, Yarn, &c.
Or for any other purpose requiring
great pressure.
BOOMER & BOSCHERT PRESS CO.
329 W. Water St. Syracuse, N. Y.

CAR PILE DRIVERS
Extension truss, to drive from one bent to another. 20 feet lateral swing, 5 feet from center. Fitted up with our new style Nasmyth Steam Pile Hammer.
VULCAN IRON WORKS, CHICAGO.

W. H. COLE,
Electrical Engineer
—AND—
Consulting Electrician,
80 Fifth Ave., New York.

Tests, Measurements and Estimates of all kinds. Sole agent of the Phoenix Incandescent Lamp Co. Lamps for any System and Candle Power.

WRITE FOR PRICES TO
THE SOUTHERN EQUIPMENT CO.
Representing reliable manufacturers of
Railway, Mining and Mill Supplies.
ORDERS FILLED PROMPTLY.
Chattanooga, Tenn.

POPULAR AND DIRECT ROUTE
THE BAY LINE

For Old Point Comfort, Norfolk and the South.

Steamers leave daily (except Sunday) Union Dock 6.30 P. M. Canton Wharf 7 P. M.; arrives Old Point Comfort 7 A. M. at Norfolk at 8 A. M.; Portsmouth 8.15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE & OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK with NORFOLK & WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the Southwest; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At PORTSMOUTH, VA., with SEABOARD & ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Charlotte, Fayetteville, Newbern, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL SOUTHERN CITIES.

Palace Staterooms, Unsurpassed Cuisine, Undisturbed Night's Rest, Sure Connection. For Tickets and information apply at Company's Office, 139 E. Baltimore St. or on board steamers.
E. Brown, G. T. A. Eason Jones, Agent.

The Patent Variable Friction Feed Circular Saw Mill.

The accompanying cut represents the latest improved patent variable friction feed circular saw mill, made by the Bird-sall Co., which has a branch house at 203 North street, Baltimore, which is recommended for a small or medium lumbering

feed is variable from nothing up to four inches to each revolution of the saw, and thus is adapted to any size or power. They can be run successfully by an engine as small as eight horse-power, and are equally well adapted to engines of forty or fifty-horse capacity. This mill has no belts whatever, is always ready and is very compact, solid, simple and convenient.

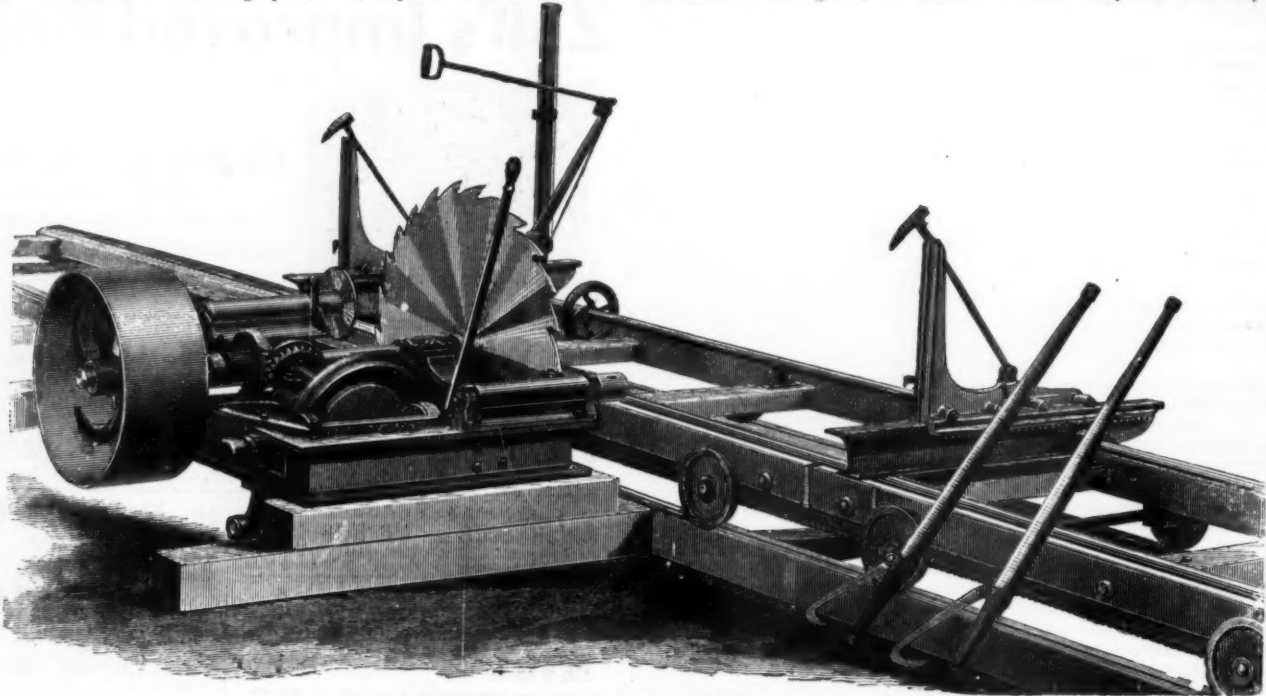
track clean of saw-dust, bark, etc. The head blocks are solid iron, heavy, and open wide to take on the largest logs. They are nicely fitted up. The standards are high and solid, and the chisel dogs are provided for holding the last board.

The Perfection Meat Cutter.

The Perfection meat cutter, of which illustrations are given, is offered to

reduced to a uniform size by a further cutting in passing through the holes in the cone. The work of cutting is thus advantageously divided and all unnecessary friction and waste of power avoided.

After the meat has passed through the machine once, it can be readily put through again as often as desired to make it still finer. Any wear that may take place in



PATENT VARIABLE FRICTION FEED CIRCULAR SAW MILL.

business, and where it will not pay to use a feed stationary mills.

The husk frame is of iron and is cast in one solid piece. It is said to be much stronger and heavier than is generally used for this class of saw mills, and to be superior to wood frame, because it is more rigid; it is not injured by being exposed to the weather, and the working parts are not liable to get out of line. The mandrel of this mill is made of a special quality of steel for this purpose, and is very strong and heavy, being three inches in diameter. It runs in very wide, self-oiling bearings, which are lined with the best anti-friction metal. The end motion of the mandrel is regulated by a collar on the mandrel at the bearing furthest from the saw, and the saw collar at saw end of mandrel is not allowed to touch the bearing. This feature in these mills will be appreciated by all experienced sawyers who have had trouble with heated saw collars, as it effectually prevents all heating at the saw collar end of mandrel. The saw guide can be adjusted while the saw is in motion. It is a very simple and solid device.

The feeding device on this mill is original with the manufacturers, and said to be used only on their mills. It does not crowd the mandrel endways, causing it to heat. It consists of a disc keyed fast to a shaft that is connected at right angles with the saw mandrel by a bevel gear that works easy, smooth and positive, and the motion is transmitted to the carriage by friction wheels, arranged to be brought in contact with the face of the disc, and so arranged that the friction wheel can be shifted towards the center of the disc when a slow feed is required, or from the center when a faster feed is desirable, the different feeds from slow to fast being produced by sliding the face of the disc from center to circumference, or vice versa across the friction wheel. The sawyer has perfect control of the feed at all times, and can change it instantly to slow or fast while the saw is in the cut, without stopping or making any change whatever, except a movement of his lever. By use of this device the sawyer can always use all the power of his engine, whenever in a light or heavy cut. The

The carriage is made strong and solid, and is held together with screw bolts extending through both sides, making it strong and rigid. It is mounted on solid iron flanged rollers ten inches in diameter; they are connected by heavy wrought-iron axles that extend across the carriage, and run in self-oiling bearings; they are ca-

the trade as the result of several years' careful study and experimenting as to what is required for a perfect and satisfactory cutter for family as well as butchers' and farmers' use. The manufacturers claim that "it is strong, simple, easily put together and taken apart, of few pieces, easily operated and cleaned, no parts to wear out or become dull, cuts and does not grind the meat, etc., and is offered with the fullest confidence as to its superior advantages."

The parts of cutter are shown in illustration.

The meat, etc., to be cut is dropped in

course of time in cone or cutting screw is always taken up in putting cone in machine, and such wear, instead of dulling the cutting edges, sharpens them.

The cone furnished regularly with the machine has holes 5-32 inch in diameter. Cones with larger or smaller holes can be had of sizes shown in illustration.

The Perfection meat cutter is designed as a machine for family use, and in this respect fills a demand for cutting raw meats, cooked meats, chicken, lobsters, oysters, etc., for croquettes; hash of all kinds; suet, codfish; material for mince pies and fruit cakes; almonds and cocoa-



FIG. 1.—PERFECTION MEAT CUTTER.

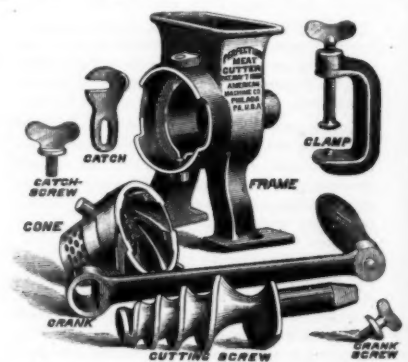


FIG. 2.

nuts for cakes; pulverizing stale bread and crackers for frying purposes; chopping vegetables for soup, beef for beef tea,

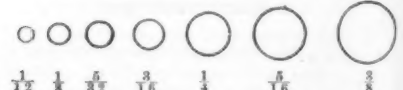


FIG. 3.

pable of supporting the carriage and the heaviest timber without trembling, and the trucks being large in diameter, less power is required to move the carriage than in the ordinary mills on the market. The standard length of carriage is 24 feet, with 32 feet of feed rack, so that the mill will saw logs about 30 feet in length. The track is wrought iron, and scrapers are provided on the carriage for keeping the

hopper in either large or small pieces or in long strips, as desired, and only require to be of such size as will go in the hopper easily. The pieces are forced forward by the screw to the cone, where they are cut between the sharp edges of the revolving screw and those of the stationary oblique knives in the cone—like between the blades of a pair of scissors—and finally

and many other purposes. The Perfection cutter will, it is said, not only do this thoroughly, but it will cut equally well raw beef and pork for sausages; liver, etc., either hot or cold, for puddings, scrapple, hoghead cheese, and be used for many other purposes required by butchers and farmers.

The American Machine Co., of Philadelphia, are the manufacturers of this machine.

SIXTY-THIRD ANNUAL REPORT.

To the Stockholders of the Baltimore and Ohio Railroad Company:

The General Balance Sheet, the tabular statements of the General Auditor, and the report of the General Manager are appended.

OPERATIONS FOR THE YEAR.

GENERAL INCOME ACCOUNT.

GROSS EARNINGS, EXPENSES AND NET EARNINGS OF EACH DIVISION.

The following table shows the gross earnings, the expenses and the net earnings of the Main Line and Branches and each Division of the System, with comparison for the preceding year:

TONNAGE OF THE YEAR, WITH COMPARISON.

Tons carried in 1884.....	8,629,048
" " " 1885.....	8,422,936
" " " 1886.....	9,807,686

There has been charged to the operating account of 1889 the sum of \$310,042.27 expended in repairing the damages caused by the floods of 1888 and May 31, 1889.

Appended to the report of the General Manager will be found a statement in detail, showing the Construction and Betterments for the fiscal year, the aggregate expenditures for which amount to \$1,539,101.03. These have been charged to Capital Account. The expenditures for this account for the preceding fiscal year amounted to \$1,943,367.24.

This sum of \$1,529,101.03 is made up as follows:

\$1,529,101.01

The expenditures charged to the MAIN STEM were chiefly:

- For constructing second track on the Metropolitan Branch.
- For completing the Berkley Springs and Potomac Railroad from Hancock to Berkley Springs.
- For completing the Patuxent Branch from Savage to Savage Factory.
- For bridge work on the Main Stem and Parkersburg Branch.
- For enlarging the terminal facilities at Washington, D. C.
- For rolling equipment.
- For floating equipment for the harbor of New York.

The expenditures for the LINES EAST OF BALTIMORE were chiefly:

For Rights of Way and Real Estate on the Philadelphia Division and the Schuylkill River East Side Railroad.

For the construction of the Sparrow's Point Branch to the Steel Works at Steelton, and the line to Highlandtown.

For completing the double-track on the Philadelphia Division.

For Docks and Wharves.

The expenditures on the PITTSBURGH DIVISION were chiefly:

For the new Passenger Station at Pittsburgh.
For extensions of the branch Lines of the Pittsburgh Division.

The expenditures on the TRANS-OHIO DIVISIONS were chiefly:

For additional tracks on the Baltimore and Ohio and Chicago Lines.
For construction on the Central Ohio Division.

DEPRECIATION OF EQUIPMENT, CHARGED TO PROFIT AND LOSS.

At the close of the fiscal year of 1888 there was charged to Profit and Loss for "depreciation of equipment, including engines and cars condemned and destroyed," the sum of \$4,009,000, which was stated to be an approximate estimate of the depreciation.

This valuation has since been completed, and the further sum of \$607,617.63 to September 30, 1889, has been charged to Profit and Loss, as is shown in that account.

CAR TRUST FOR \$1,000,000.

During the past year an arrangement was made with the Finance Company of Pennsylvania for a five per cent. Car Trust Loan of \$1,000,000. Of this sum, there has been expended \$667,835.94 for 40 engines and 338 passenger, freight and postal cars, which were put into service toward the close of the fiscal year, leaving in the hands of the Finance Company \$332,164.06 of this loan yet to be expended for acquiring similar equipment.

The terms of the Car Trust require the payment of one-tenth of the principal annually on the first of April of each year, commencing with April 1, 1890.

SINKING FUNDS.

The Company has maintained its cash investments, through the year, to the Sinking Funds connected with its Sterling loan due in 1927, and the P. & C. Consolidated Mortgage Loan due in 1926. These two sinking funds now amount to \$893,383.

The investments for the appropriations and increments of the Main Line Sinking Funds, in pursuance of the agreement to that effect, have been made in the Consolidated Mortgage five per cent. one hundred year Bonds of this Company, and now amount to \$1,982,000 in these Bonds, in addition to \$7,376,914 of other first-class interest-bearing Bonds.

PAYMENT TO THE CITY OF BALTIMORE ON ACCOUNT OF THE PURCHASE OF ITS INTEREST IN THE
PITTSBURGH AND CONNELLSVILLE RAILROAD.

The Company has made during the year its fourteenth annual payment of \$40,000 to the City of Baltimore, on account of the purchase of the city's interest in the Pittsburgh and Connellsville Railroad, leaving still due \$440,000 of the original sum of \$1,000,000.

PAYMENT OF CAR TRUST BONDS.

The Company has made its second annual payment of \$250,000 in reduction of its Car Trust Bonds of \$2,500,000, leaving still due on this account \$2,000,000.

PAYMENT AT MATURITY OF THE TURTLE CREEK BONDS OF THE PITTSBURGH AND CONNELLSVILLE RAILROAD COMPANY.

The Turtle Creek six per cent. Bonds of the Pittsburgh and Connellsville Company amounted originally to the sum of \$400,000, \$73,400 of which were retired by the issue of the Consolidated Mortgage Bonds of that Company in 1876. The remaining \$326,600 of these Bonds matured August 1st, 1889, and were paid out of the proceeds of a like amount of the Consolidated Mortgage Bonds of that Company, which, under its consolidated Mortgage, had been set aside for this purpose.

SPECIAL LOANS AND BILLS PAYABLE.

Notwithstanding the large expenditures for Construction, for loans made to Connecting Lines (see Table E, "Due from other Railroads in General Account"), and for investments in associate interests (see Table E, "Bonds and Stocks of other Incorporations"), the Floating debt has increased only \$407,066.82. (See "Special Loans and Bills Payable," Table E.)

RELIEF DEPARTMENT.

The Legislature of Maryland, at its session in 1888, repealed the Charter of the Baltimore and Ohio Employees Relief Association, to take effect on April 1, 1889.

To enable the employees of the Company to receive the benefits and advantages which the Baltimore and Ohio Employees Relief Association had afforded them, the Company, on the 1st of April, 1889, organized a Relief Department, which practically continues the work of the old organization, with all the benefits accruing therefrom to the employees.

The active membership at the close of the fiscal year was 19,894, being a decrease of 373 as compared with the previous year.

The receipts and income during the year have been	\$	371,914.00
And the disbursements have been.....		344,738.80
From the date of the inauguration of the Association to the close of the fiscal year the disbursements have been.....		2,417,258.54
The amount due depositors by the Savings Feature was, at the close of the fiscal year of 1888.....		446,991.39
The amount due depositors at the close of the fiscal year of 1889.....		438,553.81
The amount due by depositors during the year have been.....		438,553.81
The deposits during the year have been.....		149,575.79
The amount due by borrowers at the close of the fiscal year of 1888 was.....		334,384.21
The amount due by borrowers at the close of the fiscal year of 1889 was.....		307,785.30

The funds of the Savings Feature are loaned only to employees of the Company to enable them to build and purchase homesteads.

At the close of the fiscal year there were 157 names on the Pension Roll, the disbursements on this account for the year having been \$24,160.02, and for the whole period \$93,753.90.

The Annual Report of the I

The Board of Directors recommend the Stockholders to give authority to endorse seven hundred thousand dollars of the First Mortgage five per cent. Bonds of the Monongahela River Railroad Company—the Line recently constructed through the valuable coal fields lying between the Main Line at Fairmont, and the Parkersburg Branch at Clarksburg, to each of which Lines the Monongahela River Railroad will be a valuable feeder.

STEAMSHIP LINES.

The Johnston Line of Steamships, plying between the Company's wharves at Locust Point, Baltimore, and Liverpool, has been increased during the past year by three first-class steamers of largely

increased capacity. The Line, as thus increased, gives a weekly steamer between Baltimore and Liverpool, and a steamer twice a month between Baltimore and London. The new ships are especially adapted to the carrying of live stock and general merchandise.

The increase in and the prosperity of the several Steamer Lines coming to Baltimore, engaged in foreign commerce, is a gratifying evidence of the improving condition of the commerce of the port.

The Board of Trade and other influential business organizations are making efforts to secure from the Government of the United States the sum necessary to widen the channels to accommodate the class of large steamers now seeking Baltimore.

ORGANIZATION AND RULES FOR CONDUCTING THE BUSINESS OF THE B. & O. COMPANY.

During the past year the President and Directors have carefully formulated a system of Rules and Organization for conducting the business of the Baltimore and Ohio Railroad Company, which, in the shape of a printed code, went into effect on the first of August last. Under this organization, a General Manager has been appointed for the entire system, instead of the former plan of one General Manager for the Lines East of the River and one for the Lines West of the River.

The advantages of the new system have been manifested in the effective management of the operations of the Company since it took effect.

STATEN ISLAND RAPID TRANSIT RAILROAD.

In view of the large interests of the Baltimore and Ohio Railroad Company in this line, the following is given as a statement of its operations for the fiscal year ended September 30, 1889:

	1888.	1889.
Gross Earnings	\$907,758.98	\$928,032.51
Operating Expenses	602,595.64	641,523.69
Net Earnings	\$305,163.34	\$286,508.85
Interest, Rentals and Taxes	279,982.84	291,296.54
Surplus	\$25,179.50	Deficit, \$ 4,777.69

The increase of expenditures in the past year is more than accounted for by the amount disbursed in permanent improvements upon the properties of the Company, which has been charged to Operating Expenses.

REORGANIZATION PLAN OF THE CINCINNATI, WASHINGTON AND BALTIMORE RAILROAD.

In December, 1888, a Receiver was appointed for the Cincinnati, Washington and Baltimore Railroad Company, in the proceedings for the foreclosure of the Mortgages of that Company, and the sale of the Road thereunder.

The holders of the securities of that Company in England and the United States formulated a plan for the sale of the Road under these legal proceedings, for the Reorganization of the Company and the consolidation of its First Mortgage with all Prior Liens upon the Road, in order that the First Mortgage Bonds, to be issued by the new Company, might be a First Lien on the entire property of the Company.

The Plan provides for the issue of 4½ per cent. 100-year First Mortgage Bonds to the amount of \$11,000,000, to be guaranteed by the Baltimore and Ohio Railroad Company.

The junior securities of the C. W. & B. R. Co. will be provided for by the issue of Income Bonds and Stocks of the new Company.

The fixed interest charges of the new Company, under this plan, will be \$495,000.00 As against the fixed interest charges of the old Company, amounting to 700,375.00 The annual interest charges on the First Mortgage Bonds of the old Company and the Liens prior thereto, including the B. & O. Company's judgment, were 556,730.00

The Baltimore and Ohio Railroad Company was guarantor of \$6,095,000 of the First Mortgage Bonds of the Cincinnati, Washington and Baltimore Railroad Company. Including the judgment of the B. & O. R. Co. for supplies, there were liens on the Company's road, prior or equal to the First Mortgage Bonds, amounting to \$4,574,095, thus making a total of \$10,669,095 which the B. & O. R. Co. would have been required to provide for in the contingency of the failure of the C. W. & B. R. Co., upon which the annual interest charge was \$556,730.

Under the Reorganization, the annual interest charge on the bonds guaranteed by the B. & O. R. Co. will be \$495,000.

Of these new First Mortgage Bonds, there will be issued to the B. & O. Company an amount equal to its present holdings of old First Mortgage Bonds, and also \$475,000 additional for a part of the unpaid coupons thereon held by it.

For its judgment and other claims against the C. W. & B. Company, the B. & O. Company will receive an equivalent in the First Mortgage Income Five Per Cent. Bonds of the new Company.

In addition, it receives all the Common Stock of the new Company, being one-half of the entire Capital Stock.

The Plan of Reorganization was formulated with great care by the New York and London Committees, representing the security holders of the C. W. & B. R. Co., and was presented to the President and Board of Directors of the B. & O. R. Co. on July 17, 1889, and by them approved.

This Reorganization, when completed, will place the new Company upon a sound financial basis, with an undoubted ability to earn all its fixed charges.

PHYSICAL CONDITION OF THE PROPERTY.

The physical condition of the entire system and its equipment have been steadily improved during the past year.

The maintenance of the property of the Company in the best condition possible, the importance of which cannot be overestimated, has received the special attention of the management during the past year. For the current fiscal year, it will be necessary to make considerable outlays in enlarging and improving the terminal facilities of the Company at various important points, with the view of getting the greatest possible service out of its rolling stock. The want of these facilities during the past fiscal year made it impossible to use the Company's equipment to the best advantage.

Attention is called to the following tables attached to this Report, which give in detail all information connected with the several subjects:

- Earnings and Expenses of all lines East and West of the Ohio River.
- Statement of Net Earnings and Income and Fixed Charges, of all lines of the system, together with the profit or loss upon each, for the fiscal year.
- Statement of Income from sources other than the operation of the Railroad System.
- Statement of Interest Charges, Taxes, Rents, etc., for the fiscal year ended September 30, 1889.
- General Balance Sheet, September 30, 1889.
- Profit and Loss for the fiscal year ended September 30, 1889.
- Statement of entire Funded Debt of the Baltimore and Ohio Railroad Company's System, including that for account of the Baltimore and Ohio and Chicago Railroad Companies, the Parkersburg Branch Railroad Company, the Philadelphia Branch and the Baltimore and Philadelphia Railroad Company; also the Funded Debt of the Pittsburgh and Connellsville Railroad Company.
- Leases of the Company.
- Bonds for which the Company is Guarantor.
- Profit and Loss, Washington Branch, for the fiscal year ended September 30, 1889.

The President and Directors take great pleasure in acknowledging the specially faithful and efficient services of the officers and employees of the Company during the past year.

By order of the Board,

CHARLES F. MAYER, President.

Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference

PROPOSALS.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 12th day of December, 1889, for furnishing and delivering at freight depot in city where required Fire-Proof Safes, &c., required for the government buildings at Newport, Vt., Petersburg, Va., Tampa, Fla., and Poughkeepsie, N. Y., in accordance with the specification, copies of which may be had on application at this office. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. November 25th, 1889.

WANTS.

WANTED.—Situation as Superintendent of Cotton Mill; best of references from present employers, with whom have been with as such for nearly 20 years, and others to whom I am well known. Address HUGH BONE, Ellicott City, Howard county, Md.

WANTED PARTNER

With Capital of \$5,000.

to take interest in established lumber and manufacturing business with \$10,000 already invested. Profits last year fifty per cent. Thorough investigation invited. Address

J. W. ROBERTSON & CO., Morganton, N. C.

FOR SALE.

DARLINGTON LAND IMPROVEMENT CO.

Lots within the incorporate limits of the town of Darlington, and fine farming lands adjacent, for sale. Railroad facilities good. Fine grade 1 school in town. For further particulars apply to J. J. WARD, President and Treasurer of Darlington Land Improvement Co., Darlington, S. C.

SPECIAL INDUCEMENTS

OFFERED

MANUFACTURERS.

Manufacturing Sites, Mills, Farms,

and Village Property,

for sale by

J. L. MOON, Scottsville, Va.

Texas Ranch For Sale

of 38,000 acres in a solid body, well improved; comprising a peninsula on the Gulf coast near the harbors of Corpus Christi and Aransas Pass. Land good; well suited for cultivation; soil rich; excellent native grass; no cold weather; no feeding needed; cattle graze through the year. Locality healthy; Gulf breeze makes summers cool. Fish and oysters plenty. Wild ducks and geese abundant. As a breeding ground for cattle, mules or horses, this locality is not surpassed in the world. The cattle on this ranch, raised on it, for sale at market prices. Price of the land \$3.00 per acre. Send for circular and map.

S. M. SMITH,

FORT WORTH, TEXAS.

FOR SALE

FOR CASH.

A 48-inch Turbine Water Wheel, with casing; manufactured by James A. Davis, Macon, Ga.; develops 21 horse-power under six-foot head; using 1,184 cubic feet of water per minute, and making 71 revolutions; develops under a ten-foot head 4½ horse-power, using 1,500 cubic feet of water per minute, and making 92 revolutions. Will sell for \$200. The wheel is new; never been used. Price at factory \$420. Address

W. T. YELVERTON,

Assignee of R. E. JONES, GOLDSBORO, N. C.

A SPLENDID OPPORTUNITY

to secure a well-established Business in a Growing Southern City of over 80,000 inhabitants.

For Lease and Fixtures for Sale,

A Modern Boiler Shop

thoroughly equipped with power and water and the latest and most improved Punches, Shears, Rolls, Planers, Overhead Cranes, Riveting Machinery, Sheet Iron and Hand Tools. Railroad switch enters shop. Capacity for four hundred Boilers per year. The proper party can secure these works on favorable terms, and can pay for the tools out of orders that owners will guarantee. Address "INDUSTRY," care of Manufacturers' Record.

Cotton and Woolen MACHINERY.

50 Crompton Fancy Cotton Looms, nearly new, 36 inch reed space, for 12 Harnasses, 4 boxes at one end, 1 at the other.

My Store Houses here have over 3 ACRES of storage, which is covered with good machinery, including nearly full systems for Cotton and Woolen Mills.

• JEREMIAH CLARK, •

Lowell, Mass. Office, 63 Dutton St.

FOR SALE

TO THE HIGHEST BIDDER,

THE TERRELL

Cotton and Woolen Mill,

located in Terrell, 32 miles east of Dallas, on the Texas & Pacific Railroad, consisting of one two-story brick, tin-roof building, 150x60 feet, and the machinery necessary for a 2,200-spindle mill, with 35 looms, all in position. Will be sold to the highest bidder on the 22d day of January, 1890. Address

TERRELL COTTON AND WOOLEN MFG. CO.

TERRELL, TEXAS.

Rare Opportunity

FOR SOUTHERN ENTERPRISE.

A Large Hoisery Mill.

now running successfully in Philadelphia, Pa. Owner will sell and move entire plant into a Southern City, and take part stock in the company for same if proper and safe inducements can be offered. Address

J. K. LAMB,

203 Chestnut Street, PHILADELPHIA, PA.

AUCTION.

THE

Manchester Cotton Mill.

— LOCATED AT —

MANCHESTER, CUMBERLAND COUNTY, N. C.

half mile from station on the Cape Fear & Yadkin Valley Railway and 21 miles from Fayetteville, will be offered for sale at Public Auction at Manchester at noon on Thursday, December 5th, 1889.

The Mill is fully equipped for the manufacture of Plain Checks and other colored goods. Has both water and steam power, and can be run with small quantity of fuel.

The capacity is 1,750 spindles and 55 looms, and the production of yarn about 750 pounds, and of woven goods 2,500 yards per day.

The property consists of Mill Building, part of which is brick; Machine Shop with Lathe and all necessary tools; Store and Store Houses; Gin and Gin House; 17 Tenement Houses, and 35 acres of Land; Gas Machine and Piping complete for lighting every part of the Mill; Dye House with Vats and all other necessary appurtenances.

TERMS—One-third cash, one-third in one year, balance in two years, the last two payments to be secured by endorsed notes at the rate of six per cent. per annum from date of sale.

A full inventory and further information will be furnished on application by mail or in person at this office to all parties who may contemplate purchasing the Mill.

By order of the Board of Directors,

THOMAS P. BALDWIN, Pres.

5 & 7 W. German St., Baltimore, Md.

November 15, 1889.

Lime and Marble Quarries

FOR SALE.

In Virginia, a tract of 750 acres, partly timbered, balance suited for agriculture and grazing, being well watered; containing also practically inexhaustible quarries of limestone and marble. The marble is blue, gray and pink, suitable for building or for soda fountains, counters, tessellated floors, buildings, &c. Easily quarried; water-power on spot. Lime is of established reputation and best quality sold for years, commanding ready sale for whole output in carload lots at large profits per barrel. Situated within two-thirds of a mile of two railroads. Beds of Yellow Ochre for sale also. For full particulars apply to

CHAS. L. WILSON,

Buchanan, Botetourt Co., Va.

[Special Dispatch to MANUFACTURERS' RECORD.]
PITTSBURGH, PA., November 27, 1889.—We have closed conditional contract for furnace building at Middlesborough, subject to pending negotiations.
JAS. P. WITHEROW.

[A dispatch from Middlesborough to MANUFACTURERS' RECORD says that these negotiations have just been fully settled.]

THE Talladega Iron Co.'s blast furnaces are in Alabama, and some of the principal shareholders are prominently connected with the Black Country iron trade. In our last issue we noticed the shareholders' meeting held at Birmingham, when very satisfactory reports were submitted. At Talladega they are making very superior Bessemer iron, and the cost of producing it is so low that it is seriously asserted that if hematites go much higher some of the Talladega iron may find its way into the English market.—London Iron & Steel Trades Journal.

TO RECLAIM SUGAR LAND.—LANIER P. O., FLA., Nov. 19, 1889.—Our Ocklawaha Canal Co. is formed, but not yet fully organized under the laws of our State. We have to give 90 days' notice. We expect to carry the enterprise forward and reclaim at least 100,000 acres of the best sugar lands in the United States—lands that will make about 200,000 hogheads of sugar.
THOS. C. LANIER.

MACHINERY WANTED.—WASHINGTON, D. C., November 22, 1889.—I represent a company who own a large tract of timber land in Southwest Virginia. We wish suitable machinery for extracting the tanning properties from oak bark.
F. W. EVANS, Manager.

Canning Factories

ESTABLISHED AND BUILT.
ALSO
SUPERINTENDENTS FURNISHED
To take charge of Factories.

ADDRESS
C. PALMER MFG. CO., Blair, Nebraska.

FOR SALE.

A NEW 100 HORSE-POWER AUTOMATIC CUT-OFF ENGINE, at a Low Price.

Also a 100 horse power SLIDE VALVE ENGINE that has been in use 18 months, but is in most excellent running order. Can be seen running for a month. Will be sold at one-half its cost. Apply to

RICHMOND MACHINE WORKS,
RICHMOND, IND.

Bargains in Machine Tools

We have the following Machine Tools, taken mainly in exchange for those of our own manufacture. We will sell them low.

LATHES.
3 1/2 in. x 2 ft. 3 in. P. & W. Bench Hand Lathe. Good Order.
4 1/2 in. x 2 ft. P. & W. Bench Hand Lathe. G. Order.
3 1/2 in. x 3 ft. P. & W. Bench Hand Lathe. " "
10 in. x 2 ft. 6 in. P. & W. Bench Turret Lathe. " "
1835 Star Hand Lathe. New.
1836 Flitchburg Lathe. Good Order.
1836 Putnam Lathe. Good Order.
1836 ew Haven Lathe. Good Order.
1836 Gray Lathe. Good Order.
1836 New Haven Lathe. Good Order.
1838 George Baker Lathe. Good Order.
1838 Ames Lathe. Good Order.
1836 L. W. Pond Lathe. Good Order.
1836 Ames Lathe. Good Order.
1836 W. & L. L. the. Good Order.
183624 x 6 P. & W. Gap Turret Lathe. Good Order.
18368 Fifield Lathe. Nearly New.
183610 Niles Lathe. Good Order.
18364 W. & L. Lathe. Good Order.
183616 W. & L. Lathe. Good Order.

PLANERS.
18 in. W. & L. Shaper Travelling Head. Good Order.
18 in. Hendey Shaper. Good Order.
18 in. Planer 24x24x8 New Haven. Good Order.
18 in. Planer 24x24x8 Aldrich & B. B. B. Good Order.
18 in. Planer 36x36x8 Stevens. Good Order.
18 in. Planer 36x36x8 L. W. Pond. Good Order.

MISCELLANEOUS.
18 in. S. H. Blaisdell Drill. Good Order.
18 in. S. H. Niles Drill. Good Order.
18 in. B. G. Drill. Good Order.
18 in. H. & J. Radial Drill. Good Order.
18 in. No. 4 Garvin Miller, plain. Nearly New.
18 in. No. 4 Garvin Miller with B. G. New.
18 in. No. 4 Miller.
18 in. No. 4 Spindle Valve Miller. Nearly New.
18 in. H. & J. Punch and Shear, combined, 1 in. hole and 1 in. iron. Nearly New.
18 in. Single Punch and Shears, 1/2 hole and 3/4 iron. New.
18 in. Wiley & Russell Bolt Cutter. Good Order.
18 in. Standish 1/2 in. Power Hammer. New.
18 in. Blundell & Co. Screw Press. Good Order.
Write for Prices.
Write for additions constantly made to this list.
Complete estimates made on outfit.

THE LODGE & DAVIS MACHINE TOOL CO.
Cincinnati, Ohio.

Manufacturers of Engine Lathes, Shapers, Upright Drills, etc. Dealers in Iron and Brass Working Machinery.

Western Store 68 & 70 S. Canal St., Chicago.

500 Per Cent. in Land.

2,500 acres, lying west. Adjoining city limits at Augusta, Georgia. The largest cotton manufacturing city in the South. High rolling land, joining P. J. Berkman's extensive nurseries—the only available land for city extension. Only needs rapid transit to become at once saleable at \$500 to \$1,000 per acre. Can be bought now at \$50 to \$100 per acre in part or whole. No finer suburban lands in the South.
Investors and builders of suburban railways invited to investigate this field for development of profitable enterprise. Address
J. H. ALEXANDER, Augusta, Ga.

AN ELEGANT CHANCE

for a PROSPEROUS BUSINESS in a Southern City of 100,000 inhabitants.

A THOROUGHLY-EQUIPPED FOUNDRY

of twenty tons daily capacity, to lease for a term of years. Fixtures for sale at cost and valuable contracts guaranteed. For particulars address "BOOM," in care of the Manufacturers' Record.

To Those Looking For

MANUFACTURING SITES IN THE SOUTH.

The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills, muck bar mills, nail works, glass works, cotton or woolen mills, and tanneries, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; pig iron from the furnaces at Lynchburg (2), Roanoke (2) in operation and 1 now under construction), Pulaski (1), Ivanhoe (1), Radford (1, to be built in 1890), Salem, Graham and Max Meadows (1 at each point now under construction); bar iron from the rolling mills at Roanoke and Lynchburg; coke and semi-bituminous coal from the Pocahontas Flat Top field; superior gas coals from mines on the Clinch Valley Extension; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development in iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. Pope, General Freight Agent, Roanoke, Va., or to

CHAS. G. EDDY,

Vice-President, Roanoke, Va.

DENISON, TEXAS.

THE

Future Manufacturing and Commercial Center

OF THE

GREAT SOUTHWEST.

Denison Supplies the Coal for Texas.

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at DENISON and there be worked.

DENISON cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

DENISON has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.

For information about DENISON and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

MUNSON & BRO.

301 WOODWARD STREET,

DENISON, TEXAS.

To Manufacturers.

Arkansas Investments.

For Sale BOILERS.

41 Second-Hand and 23 New Boilers,
13 Second-Hand and 19 New
ENGINES.
At buyers' prices. Address
CASEY BOILER MFG CO Chattanooga, Tenn

Steam Fire Engines

FOR SALE

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

Lowell Steam Boiler Works,
LOWELL, MASS.
Estimates given on New Work of every description.

PORTLAND CEMENT.

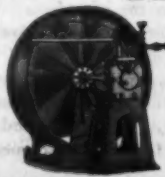
German and English Brands of Best Quality.

Send for tests and all particulars to
ERKINE W. FISHER,
WELLS BUILDING, No. 15 Broadway, NEW YORK.

CLARK'S

Drying, Ventilating & Exhaust Fans
With First-Class Engine Attached.

Get the best Fan for Drying and Ventilating in the market.



The Clark light-running Exhaust Fans, Self-oiling Bearings, Adjustable Wings; also first-class high speed Engines attached to frame of Fan when desired. Fans and Engines in combination or separate at lowest prices. Catalogue free.

GEORGE P. CLARK, Box C Windsor Locks, Ct.

FREE SITES and Coal 25 cents per ton to manufacturers desiring location in the Southwest. Cotton, Timber, Limestone, Iron, Coal Lands and Town Lots for Sale. Investments made for non-residents.

HUNTINGTON,

Sebastian County, of two years' growth. Population over 2,000. Lies in the heart of the mineral district. Correspondence solicited.
A. L. RAYMOND, General Agent,
Huntington Town Co., Huntington, Ark.

To Manufacturers

Desiring a Staple Article on Royalty or Shop Right. For particulars of the "Landis Patent Steam and Hot Water Radiator" address **EZRA F. LANDIS,**
111 CENTER ST.,
PHILADELPHIA, PA.

FOR SALE.

19-ton ice plant (Pictet) all complete and in first-class order, can be had at one-third cost, and been in use only one year. For particulars inquire of

SO. FLORIDA FOUNDRY & MACHINE CO.,

ORLANDO, FLA.

BRADLEY'S POWER HAMMERS

Established 1888.
The BEST in the World run by Belt

OVER
1500
IN USE

BRADLEY'S HEATING FORGES

Indispensable in all shops to keep
BRADLEY'S CUSHIONED HAMMERS

and men fully employed and reduce the cost of production.

BRADLEY & CO. SYRACUSE, N.Y.

BRADLEY'S HEAVY DUAL
BRADLEY'S LIGHT DUAL
BRADLEY'S MEDIUM DUAL
BRADLEY'S PORTABLE DUAL
BRADLEY'S ROLLING DUAL
BRADLEY'S SHEARING DUAL
BRADLEY'S TAPPING DUAL
BRADLEY'S TURNING DUAL
BRADLEY'S WELDING DUAL
BRADLEY'S YIELDING DUAL

Stedman's Improved Disintegrator and Pulverizer.

This mill consists of several oppositely revolving cages formed of round bars, reinforced with iron rings, and secured to heavy cast circular disks. The bars of one set of cages project between the bars of the opposite cages. No grinding or crushing

has an increased clearance, and when discharged from the last cages, the current of discharge is in the direction the cage revolves. The cages being set closer to one end of the mill than the other, gives a continued increased clearance between the cages and casing, thus rendering the liability to clog almost impossible."

The reinforcing rings at ends of pins are

different materials of fire-brick and stone rock, for cement and glass works.

The capacities of these mills depend on the kind and condition of material, but it is claimed to do more work for the power used than any mill yet made.

A great many new materials are constantly being found for which this particular mill is adapted.

motors. The use of water motors is rapidly extending, and the Tuerk Co. furnish first-class machinery.

THE Heisler system of long distance incandescent lighting has again been honored. This time the distinction comes from the Texas State Fair and Dallas Exposition, where it received first premiums for

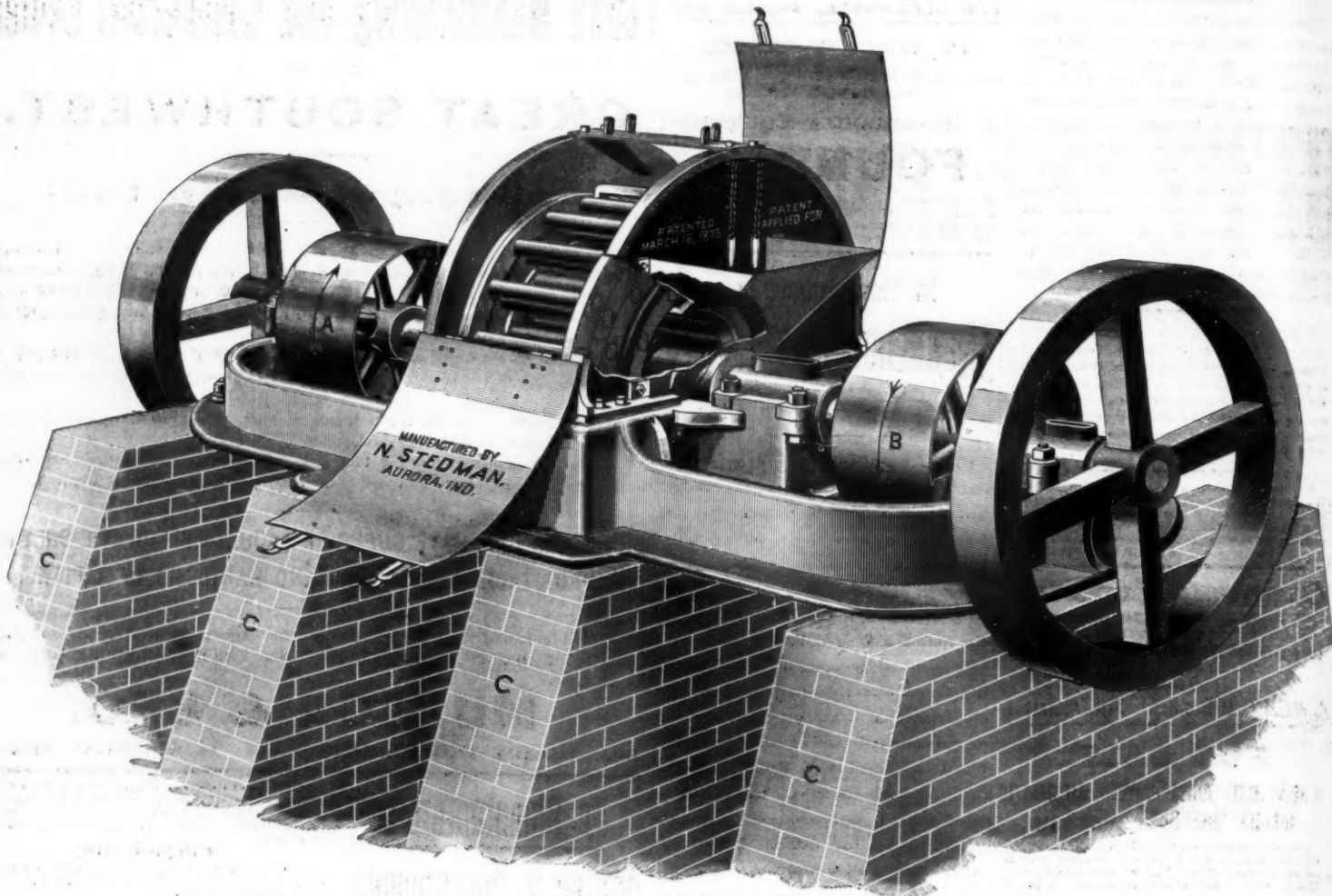


FIG. 1.—IMPROVED CLAY DISINTEGRATOR.

surface is presented; the material to be disintegrated is received into the inner cage, and by the centrifugal force created by the rapidly revolving cages, the material is projected through the cages and against each other, and by which a system of attrition and free blows is merged into one, from which no friction ensues.

This mill will disintegrate or pulverize the following materials:

Clays of all kinds direct from the bank, for brick and tile.

Shale and slate direct from the bank, for brick and tile.

Fire-clay and sandstone rock, for cement and fire-brick.

Graphite crucibles and slag from open air furnaces, for use in rolling mills.

Coals of all kinds, and other materials for foundry facings.

Iron ores of various kinds, guano, phosphates, bones—green, dry or steamed, tankage, bone ash, salt cake soda, cracklings, oyster shells, animal matter in almost all conditions, old fire-brick and tiles, old pottery ware, plastic clay, asbestos, and in fact almost any material that can be disintegrated.

A good disintegrator and pulverizer is a long-felt want in many branches of business. The mill shown herewith is claimed to be an improvement over any yet made, and is the result of practical experience.

The manufacturers claim that "the construction of this mill insures greater durability, easier running, better and more work than has ever yet been obtained in mills of this class. The construction is such that the material in passing through

so located as to be protected from the material, and consequently do not cut out.

The cage pins are made of material suitable to the work to be pulverized, and parties ordering mills must state what kind of material they are to disintegrate or pulverize.

The manufacturers, Stedman's Foundry & Machine Works, at Aurora, Ind., will make tests of any materials sent them on which freight or expressage is prepaid, and will answer all questions in connection with this improved disintegrator and pulverizer.

the best systems of incandescent lighting, and the best incandescent dynamo and regulator.

THE Sinker & Davis Co., Indianapolis, Ind., manufacturers of saw mill machinery, are preparing to do an immense business in

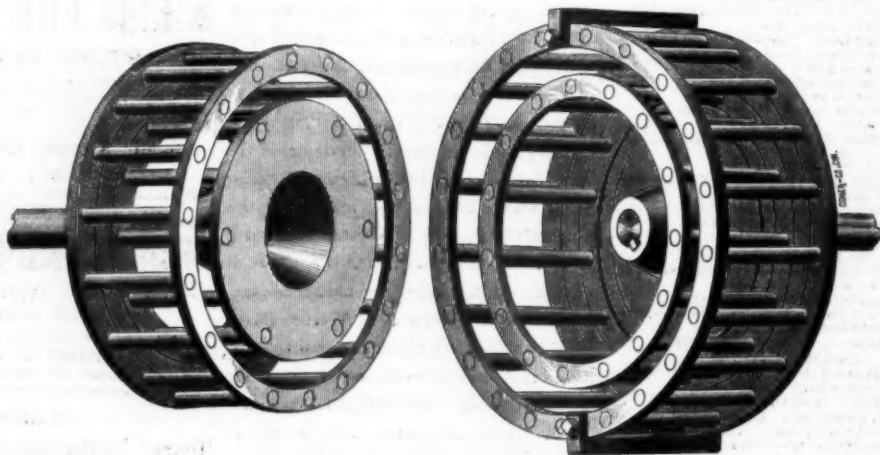


FIG. 2.—SECTIONAL VIEW.

Care is taken by the manufacturers to use such material for pins as will give the greatest amount of durability.

To brick, tile and pottery men and to terra-cotta works this mill is invaluable. It reduces the clay to a fine, light and soft condition, with its full adhesive properties retained.

It grinds or disintegrates readily all the

THE Tuerk Water Meter Co. have removed from Syracuse to their new and roomy factory at Fulton, N. Y. The new establishment affords them ample facilities, the building, 220x55 feet, being of four stories, and supplied with all the latest conveniences and equipped with motors of 100 horse-power. We commend the firm to all having need of water meters and

the South during the coming season. This is an old, well-established concern, with a record for good work at reasonable prices.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

SALE EXTRAORDINARY!**\$150,000**

WORTH OF

CITY PROPERTY AT AUCTION**AT DANVILLE, VA.****READ THE LIST.****THE ARLINGTON HOTEL.**

This is a fine brick building, five stories high and containing fifty rooms for guests, besides office, reading room, dining room, &c. It is provided with water, gas and electric lights, fire escapes and all modern conveniences.

It is situated on Main street in the heart of the city and is by long odds the best building and best location of any other hotel in Danville. It is furnished throughout with good furniture and is now run as the leading hotel. The hotel property also has two stores fronting on Main street, and a barber shop, bar-room and store fronting on Union street, all of which are now occupied by paying tenants.

FOUR BRICK STORES.

Also will be sold, four brick stores on Union street. Two of these stores are near the Arlington hotel, one of which is occupied by the Southern Express Company, and two others next to the Alliance warehouse. The last mentioned stores have thirty-six rooms up stairs and in rear, and this part of the building could be used as a boarding house or hotel. Most of this property is now rented.

LEE'S WAREHOUSE.

This warehouse is located on Bridge street, and 110x240 feet with large lot in rear. It is two stories high in front, besides a full length basement for the storage of tobacco, with a sub-basement in rear. It is a new building of the best hard brick, and is the largest and best tobacco warehouse in Virginia or North Carolina. It is now rented to a live tenant and is one of the leading leaf tobacco establishments in the country.

FACTORY BUILDINGS.

FIRST.—A brick factory on High street, three stories high, 40x75 feet. It is in splendid condition and is now occupied by a good tenant.

SECOND.—A brick factory on Loyal street, four stories high, 40x100 feet. This factory has dry rooms and can be used for manufacturing purposes.

ALL OF THIS SPLENDID PROPERTY WILL BE SOLD AT AUCTION ON

Thursday, December 12th, 1889. at 11 o'clock.

TERMS: One-fourth cash, balance six, twelve and eighteen months. Title retained until purchase money is paid, or terms will be made with purchasers.

SPLENDID OPPORTUNITY FOR INVESTMENT.

DANVILLE has taken on her second growth and is rapidly building up. It is to-day the most substantial city of its size in the State, and has a brilliant prospect of doubling its population within the next ten years. It has a population of twelve thousand (exclusive of North Danville) and its real and personal property is assessed at eight million dollars. The statistics show that it is the richest city per capita in the State of Virginia.

It is a model little city, fully equipped with gas and water, telephone, electric street cars, fire department, public schools and colleges, electric lights, underground sewers, free delivery of mails and all modern conveniences.

Danville is the largest and best bright tobacco market in the world and its annual sales of leaf tobacco amount to from thirty to forty million pounds. It requires ten large warehouses to handle this tobacco.

It has about 150 large brick establishments for the handling and manufacture of tobacco, giving employment to several thousand persons. The output of manufactured tobacco this year is more than fifty per cent. greater than it was last year and the factories are constantly enlarging their business.

It has two large cotton factories, giving employment to more than a thousand hands and these are constantly increasing their capacity.

A new foundry and machine shop is soon to be removed here from Durham, N. C., and numerous other smaller industries are here and flourishing.

It has a magnificent water-power on both sides of the river already developed and inexhaustible undeveloped power up the river.

Danville is already a flourishing, pushing city and is rapidly building up its industries. It is on the main line of the Richmond & Danville road and at the junction of the Midland road. It has also the Danville & New River road running through the great tobacco county of Henry and into the fine timber lands of Patrick. So much for the present.

By February 1st the Atlantic & Danville road will be opened from Danville to Norfolk, which will give Danville a direct outlet to the seacoast. Work has now begun on the extension of this road from Danville to the coalfields of Southwest Virginia and to a connection with the great railroad system of the West. This will open up a country entirely new to Danville and will give it great advantage in the way of cheaper coal and competing railroad rates not hitherto enjoyed. The opening of this new road must make an industrial and real estate boom in Danville. Large capitalists are behind this railroad enterprise and as they have already invested largely in Danville real estate they will do all they can to push the city ahead. People who now invest in desirable real estate here must realize a handsome profit on their investment, and Danville to-day offers more flattering inducements for investments in business enterprises or real estate, or both, than any other town in Virginia.

Across the river from Danville and connected with it by a splendid iron bridge, is the flourishing town of North Danville, with a population of 4,000 and most of the North Danville people do business in Danville. In fact the two towns are virtually one, making a joint population of 16,000.

With such a splendid showing as this it is an announcement of no little moment that one hundred and fifty thousand dollars' worth of improved real estate is soon to be offered for sale in the city of Danville at public auction.

This property is sold to settle up the estate of T. J. Lee, deceased, and is the finest opportunity for a safe and paying investment ever offered in this city. Please examine the splendid list of property to be sold.

W. H. BUNTIN.**ELIZA R. BUNTIN.**

MIDDLESBOROUGH

AND

CUMBERLAND GAP.

The Future Iron *and* Steel Center of America.

THE PASSAGEWAY FOR RAILROADS BETWEEN THE WEST AND THE EAST.

A SOURCE OF COKE SUPPLY FOR THE SOUTH AND WEST.

The Furnaces and Factories already assured will make it one of the largest manufacturing towns in the South.

NEW INDUSTRIES

Being rapidly added to those already in operation and contracted for.

COAL, IRON, TIMBER

AND OTHER RAW MATERIALS.

Abundant Water for all Manufacturing Purposes.

WATER FROM PURE MOUNTAIN STREAMS FOR DOMESTIC USES.

DELIGHTFUL AND HEALTHFUL CLIMATE.

Surrounded by Valleys of Rich and Productive Farm Lands.

SEND FOR CIRCULARS, PROSPECTUS, MAPS, ETC., TO

ALEX. A. ARTHUR,

JOHN M. BROOKS,

General Manager, Knoxville, Tenn.

Resident Manager, Middlesborough, Ky.

Classified Index of Advertisers.

[FOR "ALPHABETICAL INDEX" WITH PAGES, SEE PAGE 40.]

Air Compressors.

Ingersoll-Sergeant Rock Drill Co.
Band Drill Co.

Anti-Friction Metal.

Magnolia Anti-Friction Metal Co.
Asbestos.

Chalmers-Spence Co.
Baling Press.

Boomer & Boschert Press Co.
Bankers & Brokers.

Alex. Brown & Sons.
Wilson, Colston & Co.

Jno. L. Williams & Son.
Middendorf, Oliver & Co.

Merchants & Farmers Bank.
Frederic Taylor & Co.

F. J. Goodhart & Co.
Werner Investment Co.

American Develop. Co.
Barrel Machinery

(See Wood-Working Machinery.)
E. & B. Holmes.

Bath Tubs.
Haines, Jones & Cadbury Co.

Bearings.
North American Metal-ine Co.

Bells.
Henry McShane & Co.

Belting.
Akron Belting Co.

Chesapeake Belting Co.
Chicago Raw Hide Mfg. Co.

Gandy Belting Co.
N. Y. Belt & Pack. Co.

Page Belting Co.
Shultz Belting Co.

Belting (Chain).
Jeffrey Mfg. Co.

Link Belt Engineer's Co.
R. Swormstedt & Co.

Belt Holders.
W. R. Santley & Co.

Blacksmiths' Tools.
Buffalo Forge Co.

Fulton Iron & En. Wks.
Blowers and Exhaust Fans.

Buffalo Forge Co.
B. F. Sturtevant.

Geo. P. Clark.
Boat Builders

(Steam)
Chas. P. Willard & Co.

Boilers.
(See also Machinery.)

Abendroth & Root Mfg. Co.
Casey Boiler Mfg. Co.

Babcock & Wilcox Co.
Frick Co.

I. T. Foley & Co.
Harrison Stry. B'l'r. Wks.

R. Munroe & Son.
Rochester Machine Tool Wks.

Skinner Engine Co.
Geo. W. Tift, Sons & Co.

Cleveland & Hardwick
Lowell S'tm Boiler Wks.

Campbell & Zell Co.
Taylor Mfg. Co.

Webster, Camp & Lane
Machine Co.

Boiler Appliances.
Curtis Regulator Co.

Reliance Gauge Co.
Stilwell & Bierce Mfg. Co.

Mason Regulator Co.
Chalmers-Spence Co.

Hoppers Mfg. Co.
Boiler Covering.

Chalmers-Spence Co.
Boiler Makers' Supplies.

New Doty Mfg. Co.
Hetherington & Nason.

Boiler Setting.
Jarvis Engineering Co.

Bolts and Rivets.
Hoopes & Townsend.

Brick & Clay Work-
ing Machinery & Supplies.

D. J. C. Arnold.
Chambers Bros. Co.

Fletcher & Thomas.
Henry Martin Brick Machine Mfg. Co.

C. W. Raymond & Co.
Chas. Kaestner & Co.

Alex. K. Rarig & Co.
Eureka Brick Machine Mfg. Co.

P. L. Sword & Son.
Stedman's F. & M. Wks.

Business Oppor-
tunities.

S. M. Smith.
J. H. Alexander.

Extra F. Landis.
Chas. L. Wilson.

Chas. G. Eddy.
J. L. Moon.

Ferrell Cotton & Wool
en Mfg. Co.

Canning Mehry.
E. W. Bliss Co.

Niagara Stamping &
Tool Co.

Stiles & Parker Press Co.
Warfield Mfg. Co.

C. Palmer Mfg. Co.

Card Clothing.

(See Textile Machinery and Supplies.)
Cars.

(See R. & R. Equipment and Supplies.)
Castings.

Jno. N. Marquette.
Todd Pulley & Shafting Wks.

Adams & Price Locomotive & Machine Wks.

A. Whitney & Sons.
Knoxville Car Whl. Co.

Car Wheels.
Knoxville Car Whl. Co.

A. Whitney & Sons.
Russell Wheel & Foundry Co.

Car Works Equip-
ment.

Geo. Place.
Cement.

Erskine W. Fisher.
Chemist.

J. H. Pratt.
Cloth Folders.

W. A. Richardson & Co.
Clutches.

Hill Clutch Works
The Moore & White Co.

Construction
Companies.

Scovel & Irwin Cons. Co.
Commonwealth Cons. Co.

Miller & Bierce.
Simpkin & Hillier.

Port Worth Loan and
Construction Co.

Contractors' Sup-
plies.

Contr'ts' Plant Mfg. Co.
Kilbourn & Jacobs Mfg. Co.

Bucyrus Fndy. & Mfg. Co.
Ryan & McDonald.

Stuebner & Woods.
F. C. Austin Mfg. Co.

Contracting Engi-
neers and Machi-
nists.

D. A. Tompkins & Co.
Scovel & Irwin Cons. Co.

Commonwealth Cons. Co.
Miller & Bierce.

Simpkin & Hillier.
Jas. P. Withrow.

Conveyors.
H. W. Caldwell.

McLanahan & Stone.
The Jeffrey Mfg. Co.

Link Belt Engineering
Co.

Corrugated Iron.
Canton Steel Roofing Co.

Cincinnati Corrug. Co.
Globe Iron Roofing & Corrugating Co.

Holton Iron Roofing Co.
W. G. Hyndman & Co.

Kanaberg Roofing Co.
Cambridge Roofing Co.

Cotton Gins.
Milburn Gin & Mch. Co.

Van Winkle Gin & Ma-
chinery Co.

Cotton Gin Lubri-
cator.

C. H. Merry.
Cotton Seed Oil Machinery.

Wm. Taylor & Sons.
Van Winkle Gin & Ma-
chinery Co.

Cranes.
Phoenix Iron Works.

Walker Mfg. Co.
Crushers (Corn and Cob).

Richm'd City Mill Wks.
Waldron & Sprout.

Crushers (Ore,
Stone, &c.).

Gates Iron Works.
F. H. Moore.

James Murray & Son.
Totten & Hogg Iron & Steel Foundry Co.

Wiswell Electric Min-
ing Machinery Co.

Nelsonville Foundry &
Machine Co.

Foss Mfg. Co.
Stedman's F. & M. Wks.

Dairy Supplies.
John S. Carter.

R. M. Johnson.
Derricks.

Contractors' Plant
Mfg. Co.

Dredges & Steam
Shovels.

Copeland & Bacon.
Bucyrus Fndy. & Mfg. Co.

Vulcan Iron Works.
Drills (Rock.)

M. C. Bullock Mfg. Co.
Diamond Prosp'ing Co.

Ingersoll-Sergeant
Rock Drill Co.

Rand Drill Co.
Drills (Wood and Metal).

W. F. & Jno. Barnes Co.
Cleveland Twist Drill Co.

Garvin Machine Co.
Lodge & Davis Machine Tool Co.

Sigourney Tool Co.
Syracuse Twist Drill Co.

Blackford Drill Co.

Drop Forgings.

Belden Machine Co.
Dry Kilns.

Standard Dry Kiln Co.
B. F. Sturtevant.

Dyeing Mehry.
H. W. Butterworth & Sons.

Electric Lighting
Brush Electric Co.

Thomson-Houston Elec-
tric Co.

Sawyer-Man Elect. Co.
Heisler Elec. Light Co.

Southern Electrical Sup-
ply Co.

Electric Railway
and Motors.

Thomson-Houston Elec-
tric Co.

Brush Electric Light Co.
Dah Electric Light Co.

Electrical Engi-
neers.

C. S. Van Nuis.
W. H. Cole.

Electrical Sup-
plies.

Phoenix Incau. Lamp Co.
Southern Electrical Sup-
ply Co.

Elevators.
James Bates.

Jeffrey Mfg. Co.
Morse, Williams & Co.

Stokes & Parrish Mch.
Co.

Louisville Machine &
Elevator Works.

Emery Wheels.
(See Grinding and Polishing Machinery.)

Engines.
(See also Machinery.)

Ball Engine Co.
Buckeye Engine Co.

Castle Engine Works.
Fishkill Land'g Mch. Co.

Frick Co.
J. T. Foley & Co.

W. A. Harris St. En. Co.
Skinner Engine Co.

Southwark Foundry &
Machine Co.

Geo. W. Tift, Sons & Co.
The J. T. Noye Mfg. Co.

Rochester Mch. Tool
Wks.

Cleveland & Hardwick
Westinghouse Mch. Co.

The D. A. Tompkins Co.
E. W. Payne & Sons.

Russell & Co.
Globe Machine Co.

Gordon, Strobel & Lau-
reau.

Dirigo Eng. & Mch. Co.
Taylor Mfg. Co.

Valley Iron Works.
Webster, Camp & Lane
Machine Co.

Racine Hard. Mfg. Co.
Engines (Gas).

Otto Gas Engine Wks.
Van Duzen Gas En. Co.

Engines (Kero-
sene).

Rochester Machine Tool
Works.

Engines & Boilers
(Marine.)

Chas. P. Willard & Co.
Feed Wat'r Heater

Kroeschells & Bourge's
Warren Webster & Co.

Wainwright Mfg. Co.
Fencing.

Dufur & Co.
Fred. J. Meyers Mfg. Co.

Sedgwick Bros.
Ludlow Saylor Wire Co.

Files.
Nicholson File Co.

Henry Daston & Sons.
Flour & Grist Mill Machinery and Supplies.

Nordyke & Marmon Co.
Case Mfg. Co.

Richmond City Mill
Works.

B. F. Starr & Co.
Munson Bros.

H. W. Caldwell.
Rome Foun. & Mch. Co.

Waldron & Sprout.
Geo. J. Frits.

Foot-Power Ma-
chinery.

W. F. & Jno. Barnes Co.
H. L. Shepard.

Sebastian, May & Co.
Forges.

Buffalo Forge Co.
B. F. Sturtevant.

Empire Port. Forge Co.
Foundry Facings and Supplies.

S. Obermayer Foundry
Supply Mfg. Co.

Foundry Mehry.
Victor Colliau.

Knoxville Car Whl. Co.
Jas. P. Withrow.

Friction Cones.
Evans Frict'n Cone Co.

Furnace Builders.
Gordon, Strobel & Lau-
reau.

Furnace for
Boilers.

Foundry & Mch. Depart.
Harris' Car Mfg. Co.

Jarvis Engineering Co.
Furnace Supplies.

Lowe & Tucker.
G. C. McNeil.

Gas (Light & Fuel).

Illum'g & Fuel Gas Co.
Gauge Glass.

Bray & Nickerson Auto-
matic Gauge Glass Co.

Pancoast & Maule.
Glass Cutting Tools.

Thos. J. Andrews.
Grain Elevator Supplies.

H. W. Caldwell.
Grate Bar.

Phoenix Iron Foundry.
Grinding and Polishing Mehry.

Springfield Em'y Wheel
Mfg. Co.

Waltham Emery Wl. Co.
Tanite Co.

Northampton Emery
Wheel Co.

Norton Emery Wheel Co.
Hack Saws.

Millers Falls Co.
Handle Mehry.

(See Wood-working Ma-
chinery.)
Hardware Specialties.

American Machine Co.
Empire Port. Forge Co.

Thos. J. Andrews.
Thos. Devlin & Co.

Fred. J. Meyers Mfg. Co.
Van Wagoner & Wil-
liams Co.

Udell Woodenw'r Wks.
Cronk Hanger Co.

Wier & Wilson.
Covert Mfg. Co.

Empire Wringer Co.
Heating Apparatus.

A. A. Griffing Iron Co.
Extra F. Landis.

Pierce, Butler & Pierce
Mfg. Co.

B. F. Sturtevant.
Hoisting Machinery.

M. C. Bullock Mfg. Co.
Contractors' Plt. Mfg. Co.

Copeland & Bacon.
Diamond Prospect. Co.

Knoxville Car Whl. Co.
Lidgerwood Mfg. Co.

Stokes & Parrish Ma-
chine Co.

Ryan & McDonald.
Webster, Camp & Lane
Machine Co.

Nelsonville Foundry &
Machine Co.

Chain Hoist.
E. Harrington, Son & Co.

Rope Hoist.
Fulton Iron & En. Wks.

Hose.
N. Y. Belt & Pack. Co.

Waterbury Rubber Co.
Hotels.

Colonnade (Phila.)
Stillman, (Cleveland.)

Niagara, (Buffalo.)
Hydrants.

Ludlow Valve Mfg. Co.
Hydraulic Machinery.

Watson & Stillman.
Rife's Hydraulic Engine Mfg. Co.

Ice-Making Ma-
chinery.

David Boyle.
Consolid'd Ice Mch. Co.

Louisville Machine &
Elevator Works.

Frick Co.
Arctic Ice Mch. Mfg. Co.

S. Florida Foundry &
Machine Co.

Ring Ref. & Ice Mch. Co.
Ice Tools.

Peter Gerlach & Co.
Injectors.

Felthousen & Sherwood
Insulated Wires & Cables.

Okonite Co.
Southern Electrical Sup-
ply Co.

Insurance.
Employers' Liab. Assur-
ance Corporation.

Edw. A. Swain.
Insurance (Boiler)

Hartford St. Boiler Insp.
and Insurance Co.

Iron Working
Machinery.

E. Harrington, Son & Co.
Detrick & Harvey.

Garvin Machine Co.
Lodge & Davis Machine Tool Co.

Lathe & Morse Tool Co.
Globe Machine Co.

Alphabetical Index of Advertisers.

[FOR "CLASSIFIED INDEX," SEE PAGE 39.]

The Patent Haul Pavement

is the best and cheapest roadway for cities and towns now in use. It is more durable than granite or asphalt and costs much less. Descriptive pamphlet sent on application. Correspondence solicited. Address

CHAS. CATLETT, Gen'l Manager,
STAUNTON, VA.

CARLISLE MFG. CO.

Cars, Engines, Frogs

AND SWITCHES,
CARLISLE, PA.



ROCK DRILLS
AIR COMPRESSORS &
GENERAL MACHINERY FOR
MINING, TUNNELING,
QUARRY & RAILROAD WORK
RAND DRILL CO. 23 PARK PLACE NEW YORK

FOR THE BEST MILL

FOR GRINDING AND DISINTEGRATING

Phosphates, Clays,

MINERAL AND ALL DRUG MATERIALS,

CORRESPOND WITH

Stedman's Foundry & Mach. Wks., Aurora, Ind.

New Doty Manufacturing Co.

JANESVILLE, WIS.

Manufacturers of Hand and Belt Power

Punching and Shearing Machinery,

BOILER MAKERS' ROLLS, &c.

FOR OAK LEATHER

BELTING

At Short Notice.

WRITE

THE AKRON BELTING CO.

AKRON, OHIO.

WEST POINT BOILER WORKS

Boilers with our Patent Edgewise manhole and plate in each, to order

R. MUNROE & SON
23rd & Smallman Sts., Pittsburgh, Pa.

VAN DUZEN GAS ENGINE

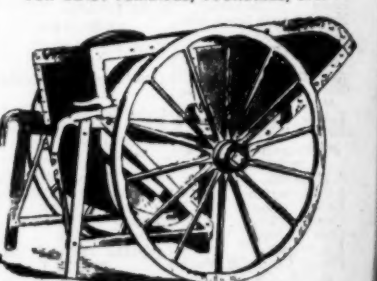
NO BOILER. NO COAL. NO ENGINEER.
No Extra WATER RENT or INSURANCE.
INSTANTLY STARTED.
DURABLE, RELIABLE.
SAFE and ECONOMICAL.
Send for description and prices.

Van Duzen Gas Engine Co.,
54 E. 2nd St., CINCINNATI, O.

McNEIL'S

Balanced Charging Barrow

FOR BLAST FURNACES, FOUNDRIES, ETC.



Send for circular No. 3.

G. C. McNEIL, Akron, Ohio.

A	Cronk Hanger Co. 5	J	Rochester Machine Tool works. 5
Abbott, D. S..... 54	Curtis Regulator Co. 5	Jarvis Engineering Co. 4	Rogers, H. A. 3
Abendroth & Root Mfg. Co..... 1	D	Jeffrey Mfg. Co. 48, 51	Rogers & Co., C. B. 8
Adams, S., & Sons..... 6	Daft Electric Light Co. 2	Jenkins Bros. 62	Rogers, Saml. C., & Co. 8
Addyston Pipe & Steel Co..... 61	Danner, A. C. 54	Johnson, R. M. 48	Rome Foundry & Machine Wks. 62
Aerated Fuel Co..... 61	Davidson Steam Pump Co. 3	Johnson, Shryock & Co. 54	Ross, Josiah 6
Aitchison, Robt., Perf. Metal Co..... 49	Dean Bros. Steam Pump Works. 62	Joyce, Cridland & Co. 54	Rouse, R. R. 6
Akron Belting Co..... 40	Deane Steam Pump Co. 7	K	Rowley & Hermance. 6
Allen, Edw..... 51	Defiance Machine Works. 7	Kaestner & Co., Chas. 45	Rumsey & Co. 64
Alexander, J. H..... 35	Defiance Oil Fuel Burner & Forge Co. 61	Kanneberg Roofing Co. 57	Russell & Co. 4
American Development Co..... 27	De Loach Mill Mfg. Co. 6	Kilbourne & Jacobs Mfg. Co. 64	Russell Wheel & Foundry Co. 4
"American Economist"..... 58	Denison, Texas. 20	Knoxville Car Wheel Co. 46	Ryan Co., Jno. 59
American Machine Co..... 56	Derby & Kilmer Desk Co. 27	Kroeschells & Bourgeois. 48	Ryan & Donald. 44
American Supply Co..... 3	Detrick & Harvey. 35	L	Ryder & Dearth. 58
Andress, Thomas J..... 55	Detroit Saw Works, The. 6	Ladd, Alfred W. 55	S
Anniston, Ala..... 24	Devlin & Co., Thos. 64	Laidlaw & Dunn Co. 62	Salem, Va. 16
Arctic Ice Machine Mfg. Co..... 41	Diamond Prospecting Co. 44	Lamb, J. K. 34	Santley, W. R., & Co. 51
Arnold, D. J. C..... 45	Dietz, Bernhard. 48	Lancaster Turbine Wheel Co. 49	Saunders, D., Sons. 47
Ault & Wiborg..... 59	Dirigo Engine & Machine Co. 58	Laudis, Ezra F. 35	Sawyer-Man Electric Co. 2
Austin, F. C., Mfg. Co..... 53	Disston, Henry, & Sons. 8	Lehman-Evans Machine Co. 47	Scovel & Irwin Construction Co. 54
B	Dixon, Jos., Crucible Co. 50	Liberty, Va. 17	Sedgwick Bros. 6
Babcock & Wilcox Co..... 5	Dolph, A. M., Co. 36	Lidgerwood Mfg. Co. 3	Seyfert, L. F. 55
Baldwin Locomotive Works..... 46	Draper, Geo., & Sons. 10	Ligowsky Clay Pigeon Co. 58	Sheffield, Ala. 5
Baldwin, Thos. P., Prest..... 34	Druid Felt Co. 57	Lincoln Iron Works. 58	Shields & Brown Co. 48
Ball Engine Co..... 58	Dufar & Co. 51	Link Belt Engineering Co. 52	Shimer, Samuel, J. 54
Baltimore Stor. & Light. Co..... 58	Du Quoin Iron Works. 46	Lockwood, Greene & Co. 31	Shryock, Thos. J., & Co. 54
Barclay & Crockett..... 9	E	Long & Ailstatler Co. 27	Shultz Belting Co. 50
Barnes, W. F. & John, Co..... 47	Eagle Iron Works. 48	Louisville Mch. & Elv. Wks. 57	Sigourney Tool Co. 31
Barry, W. B., Saw & Supply Co..... 51	Earle, T. K., Mfg. Co. 9	Lowe & Tucker. 57	Silver & Deming Mfg. Co. 31
Bates, Jas..... 51	Easton & Burnham. 9	Lowell Steam Boiler Works. 35	Simpkin & Hillyer. 60
Bay Line..... 31, 58	Eastwood & Co. 9	Ludlow Saylor Wire Co. 58	Skinner Engine Co. 4
Beach, H. L..... 54	E. T., Va. & Ga. Ry. 59	Ludlow Valve Mfg. Co. 53	Smith, H. B., Machine Co. 7
Beckett Foundry & Machine Co..... 48	Eclipse Wind Engine Co. 41	M	Smith, J. A. V. 9
Belden Machine Co..... 54	Eddy, Chas. G. 35	Magnolia Anti-Friction Metal Co. 47	Smith, S. M. 51
Bentel & Margendant Co., The..... 54	Edmonds, Elias. 8	Makepeace, C. R. & Co. 31	Smith, S. Morgan. 49
Berger Mfg. Co..... 43	Egan Co., The. 8	Males, A. S., & Co. 55	Smith & Vaile Co. 51
Besemer, Ala..... 43	Electric Power Pub. Co. 2	Marquette, John M. 64	So. Electrical Supply Co. 53
Bickford Drill Co..... 47	Ely & Deming. 51	Mason Regulator Co. 59	Southern Equipment Co. 31
Billings & Spencer Co..... 47	Empire Paint & Roofing Co. 57	McGowan, The Jno. H. Co. 62	So. Fla. Foundry & Machine Co. 35
Birdsall Co..... 4	Empire Portable Forge Co. 55	McLanahan & Stone. 45	Spangfield Emery Wheel Mfg. Co. 48
Blake Mfg. Co., The Geo. F..... 62	Empire Wringer Co. 55	McNeill, G. C. 40	Standard Mfg. Co. 7
Blakeslee Mfg. Co..... 62	Employers' Liability Assurance Corporation. 59, 61	Merchant & Co. 48	Standard Oil Fuel Burner Co. 54
Bliss, E. W., Co..... 52	Erie Railway. 59	Merchants & Farmers' Bank. 27	Standard Scale Co. 64
Bluffton, Ala..... 18	Estep, F. A. 53	Merry, C. H. 9	Standard Tool Co. 64
Boggs & Clarke..... 62	Eureka Brick Mch. Mfg. Co. 45	Middendorf, Oliver & Co. 38	Starr, B. F. & Co. 52
Bone, Hugh..... 34	F	Middleborough, Ky. 38	Steam Stone Cutter Co. 44
Bookwalter Casting Co..... 47	Fall River Spool & Bobbin Co. 9	Milburn Gin & Machine Co. 1	Stearns, E. C. & Co. 40
"Boom"..... 35	Fay, J. A., & Co. 7	Miller & Bierce. 60	Stedman's Fdry. & Mch. Wks. 40
Boomer & Boschert Press Co., The..... 31	Felthousen & Sherwood. 5	Millers Falls Co. 6	Stephenson, John, Co. (Limited). 46
Box 110..... 8	Fisher, E. W. 35	Miner & Kettig. 57	Stiles & Parker Press Co. 51
Boyle, David..... 41	Fishkill Landing Machine Co. 3	Mineral & Timber Land Co. 54	Stillman House. 59
Bradley & Co..... 35	Fletcher & Thomas. 45	Moorhead, Wm. 55	Stilwell & Bierce Mfg. Co. 61
Bradstreet Co..... 58	Florence, Ala. 23	Moore, F. H. 34	St. Louis Vise & Artesian Well Tool Co. 62
Bray & Nickerson Auto. Gage Glass Co..... 48	Foley, J. T., & Co. 5	Moore & White Co., The. 41	Stokes & Parrish Machine Co. 62
Bridgeport Gun Imp. Co..... 6	Foos Mfg. Co. 52	Morris Machine Works. 49	Stout, Mills & Temple. 63
Brown, Alex., & Sons..... 27	Forsyth, S. C., Machine Co. 47	Morrison, Robert. 62	Stratton Separator Co. 5
Brush Electric Co..... 64	Fort Payne, Ala. 19	Morrison, Tenn. 21	Stuebner & Woods. 48
Buckeye Engine Co..... 64	Fort Worth Loan & Construct. Co. 31	Morse, Williams & Co. 1	Sturtevant, B. F. 48
Bucyrus Fdry. & Mfg. Co..... 3	Foundry & Machine Department Harrisburg Car Mfg. Co. 4	Munroe, R. & Son. 40	Sumter, S. C. 23
Buffalo Forge Co..... 64	Frank & Co. 6	Munson Bros. 35	Swain, Edw. A. 58
Buffalo Steam Pump Co..... 62	Frick Co. 4	Murray, Jas., & Son. 45	Swett, Frank W. 1
Bullock, M. C., Mfg. Co..... 44	Fritz, Geo. J. 4	N	Sword, P. L., & Son. 1
Buntin, W. H..... 37	Fulton Iron & Engine Works. 6	National Pulley Covering Co. 51	Swormstedt, R. & Co. 1
Butterworth, H. W. & Sons..... 9	G	Nelsonville Fdy. & Machine Co. 53	Syracuse Twist Drill Co. 1
C	Gambrill, C. A., Mfg. Co. 39	New Berne, N. C. 22	T
Caldwell, H. W..... 8	Gandy Belting Co. 59	New Decatur, Ala. 42	Taper-Sleeve Pulley Works. 48
Cambridge Roofing Co..... 57	Gavin Machine Co. 64	New Doty Mfg. Co. 40	Taylor, Frederic, & Co. 47
Camden, S. C..... 22	Gates Iron Works. 44	New York Belting & Packing Co. 40	Taylor Mfg. Co. 4
Cameron, A. S., Steam Pump Wks..... 63	Gerlach, Peter, & Co. 6	New York Equipment Co. 55	Taylor, Wm. & Sons. 4
Campbell & Zell Co..... 63	Glen Cove Machine Co., (Lim.) 63	New York Machinery Depot. 55	Terrell Cotton & Woolen Mfg. Co. 34
Canning, Reginald & Co..... 55	Globe Iron Roof & Corrugat. Co. 57	"Niagara" Hotel. 59	Thomson-Houston Electric Co. 34
Canton Steel Roofing Co..... 57	Globe Machine Co. 57	Niagara Stamping & Tool Co. 52	The Tanne Co., Wm. & Co. 64
Carey, Thos. K., & Bros..... 1	Globe Machine Works. 57	Nicholson File Co. 52	Tift, Geo. W. Sons & Co. 4
Carlisle Mfg. Co..... 40	Godfrey & Co., L. 55	Niles Tool Works. 10	Todd Pulley & Shafting Works. 4
Carter, Jno. S..... 48	Goodell & Waters. 40	Norfolk & Marmon Co. 10	Tompkins Co., D. A. 41
Case Mfg. Co..... 49	Gordon Steam Pump Co. 63	North American Metalizing Co. 49	Totten & Hogg I. & S. Fdry. Co. 4
Casey Boiler Mfg. Co..... 35	Gordon, Strobel & Laureau (Lim.) 63	Northampton Emery Wheel Co. 56	Trevor & Co. 8
Castle Engine Works..... 58	Graham, J. S., & Co. 27	Norton Emery Wheel Co. 56	U
Cattlett, Chas..... 40	Goodhart, P. J., & Co. 27	Noye, John T. Mfg. Co. 6	Udell Woodenware Works. 56
Chalmers-Spence Co..... 45	Griffin Iron Co., A. A. 57	O	V
Chambers Brothers Co..... 45	H	Obermayer, S., Fdy. Sup. Mfg. Co. 51	Vaile & Young. 51
Charlottesville, Va..... 22	Haines, Jones & Cadbury Co. 57	Okonite Co. 10	Valley Iron Works. 4
Chattanooga Fdry. & Pipe Wks..... 63	Hall, Amos H. 52	Otto Gas Engine Works. 10	Valley Pump Co. 62
Chattanooga Saw Works..... 64	Haralson & Murray. 62	Oxford, N. C. 6	Van Duzen Gas Engine Co. 40
Chattanooga Paint Co..... 52	Harrington, E. Son & Co. 61	P	Van Noorden, E. & Co. 51
Chattanooga Wood Split Pulley Co..... 55	Harrington & King Perforat. Co. 61	Page Belting Co. 50	Van Nuis, C. S. 31
Chesapeake Belting Co..... 50	Harris, A. W., Oil Co. 4	Palmer, Cunningham & Co. (Lim.) 50	Van Wagoner & Williams Co. 55
Chester Steel Castings Co..... 47	Harris, Wm. A., Steam Eng. Co. 4	Palmer, C., Mfg. Co. 35	Van Winkle Gin & Machinery Co. 9
Chicago Rawhide Mfg. Co..... 4	Harrison Safety Boiler Works. 60	Pate, N. T., & Co. 47	Vulcan Iron Works. 31
Child, O. W., & Co..... 35	Hartford Steam Boiler Inspection & Insurance Co. 57	Payne, B. W. & Sons. 51	W
C. H. & D. R. R..... 58	Heap, Chas. 9	Pennsylvania Steel Co. 40	Wainwright Mfg. Co., of Mass. 48
Cincinnati Corrugating Co..... 57	Heisler Electric Light Co. 2	Perego & Co., W. Edwin. 54	Waldron & Sprout. 52
Clark, Geo. F..... 35	Hetherington & Nason. 31	Pettee Machine Works. 9	Walker Mfg. Co. 48
Clark, Jeremiah..... 34	Hill Clutch Works. 41	Phenix Iron Foundry. 5	Walsham Emery Wheel Co. 56
Cleveland & Hardwick..... 5	Holmes, E. & B. 6, 48	Phenix Iron Works. 50	Ward, J. 34
Cleveland City Forge & Iron Co..... 10	Hoopes & Townsend. 46	Phenix Incandescent Lamp Co. 47	Warfield Mfg. Co. 34
Cleveland Twist Drill Co..... 7	Hopkins Mfg. Co. 5	Phosphor-Bronze Smlt. Co. (Lim.) 47	Washburn & Moen Mfg. Co. 53
Coe & Wilkes..... 49	Houston, Levi. 2	Piedmont Air Line. 47	Waterbury Rubber Co. 10
Colliau, Victor..... 49	Howcott, W. H. 54	Pierce, Butler & Pierce Mfg. Co. 5	Waterloo Land, Mining & Mfg. Co. 22
Cole, W. H..... 31	Hubbard & Co. 50	Place, George. 55	Waters & Garland. 9
Colonnade Hotel..... 39	Hughes Steam Pump Co. 49	Porter, H. K., & Co. 46	Watson & Stillman. 63
Commonwealth Construction Co..... 60	Humphreys & Sayce. 55	Powell, A. C., & Son. 48	Webster, Camp & Lane Mach. Co. 4
Consolidated Ice Machine Co..... 41	Hunting, E. B., & Co. 54	Pratt, J. H. 44	Webster & Co., Warren. 48
Contractors' Plant Mfg. Co..... 53	Huntington, Ark. 35	Prentiss Tool & Supply Co. 55	Wells Rustless Iron Co. 48
Copeland & Bacon..... 53	Hunt, Rodney, Machine Co. 63	Prybil, P. 52	Westmont South. Elec. Mfg. Co. 53
Cordeman, Meyer & Co..... 6	Hyndman, W. G., & Co. 56	Pulsometer Steam Pump Co. 62	Western Maryland Railroad. 39
Covert Mfg. Co..... 56	I	Q	Westinghouse Machine Co. 5
Crompton Loom Works..... 9	Illuminating & Fuel Gas Co. 61	Queen & Crescent Route. 58	Wheeling & Lake Erie Railway. 58
	Indiana Machine Works. 6	R	Whitinsville Spinning Ring Co. 5
	"Industry." 34	Racine Hardware Mfg. Co. 54	Whitney & Sons, A. 5
	Ingersoll-Sergeant Rock Drill Co. 1	Rand Drill Co. 40	Wier & Wilson. 56
		Rarig & Co., Alex. K. 4	Wiley, J. H. 54
		Raymond, C. W., & Co. 45	Willard, Chas. P. & Co. 58
		Record Printing House. 48	Williamsport Machine Co. 4
		Refrigerating Gauge Co. 5	Williamsport Wire Rope Co. 47
		Richardson, W. A., & Co. 9	Williams, Chas. L. 34
		Richmond City Mill Works. 52	Wilson, E. H., & Co. 55
		Richmond Locomotive & Machine Works. 46	Wilson, Colston & Co. 27
		Richmond Machine Works. 35	Windrim, Jas. H. 34
		Richmond Standard Spike Co. 46	Winner, Inv. Co. 44
		Riehle Bros. 62	Wiswell Elec. Min'g Mach'y Co. 34
		Rie's Hydraulic Eng. Mfg. Co. 62	Witherow, Jas. P. 47
		Ring Refrig. & Ice Machine Co. 49	Worthington, Henry R. 10
		Robinson, J. W., & Co. 34	Woods Machine Co., S. A. 6
		Robinson, Wm. C., & Son. 6	Wyckoff, A. & Son. 64
		Robinson & Orr. 1	Y
			Yelverton, W. T. 34

Advertisements marked * are inserted every other week, and do not appear in this issue.

—DAVID BOYLE,—

521 W. Monroe Street, Chicago, Ill.

PATENTEE AND BUILDER OF THE

**BOYLE ICE MACHINE
AND REFRIGERATING APPARATUS.**

The Most Simple, Reliable, Durable and Economical in Existence.

WHAT PEOPLE SAY.

"I consider it the greatest improvement that has ever been made in breweries."—FRED. PABST, President Ph. Best Brewing Co. "We are thoroughly satisfied with your machine, and we believe it is superior to any other in the market to-day."—HENRY G. KUERT, President Atlanta City Brewing Co., Atlanta, Ga.

ESTIMATES FOR ICE OR REFRIGERATING MACHINES FURNISHED ON APPLICATION.

REFER TO OVER 140 MACHINES IN SUCCESSFUL OPERATION.

J.W. SKINKLE, President.

J. KOENIGSBERG, Secy.

LEO. RUSSELL, Vice Pres't.



**THE CONSOLIDATED
ICE MACHINE CO.**

MANUFACTURERS OF
**ICE MAKING
AND
REFRIGERATING MACHINERY.**

BRANCH
OFFICES
Nº210 EAST 34TH ST.
NEW YORK
CITY

WORKS &
PRINCIPAL
OFFICES. WEST 18TH ST. VIADUCT
CHICAGO ILL.

ESTIMATES
AND
CIRCULARS
UPON
APPLICATION

• **246** •
MACHINES

IN OPERATION

Making Ice—Refrigerating, Breweries, Packing Houses, Cold Storage Houses, Oil Refineries, Creameries, Hotels, &c.

BUY THE BEST AND SAVE MONEY.

All machines built by us are made to gauge and templet. Highest economy secured. Best results obtained. Machines in steady operation for more than ten years.

NO FAILURES.

ARCTIC ICE MACHINE

Manufacturing Co.

CLEVELAND, OHIO.

OFFICE AND WORKS,

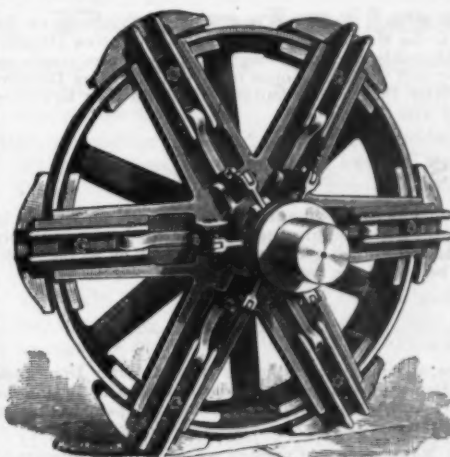
4, 6, 8, 10 WEST ST.,

P. O. Box 92.

OUR OWN SHOPS.
MACHINES CARRIED IN STOCK
AND ORDERS
PROMPTLY EXECUTED.



The Improved Arctic with Loring Engine



COPYRIGHTED BY H. W. HILL, 1888.

**HILL
Clutch Works,
CLEVELAND, OHIO.**

NEW YORK:

18 CORTLANDT STREET.

CHICAGO:

MINNEAPOLIS:

28 S. Canal Street, 306 Kanota Bldg.

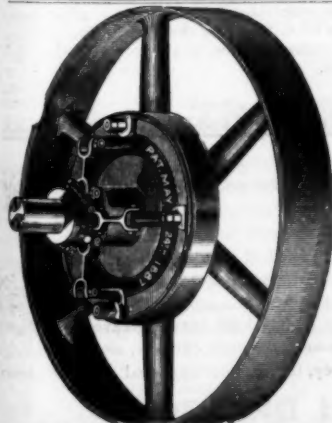
KANSAS CITY, MO.:

1231 Union Avenue.

POWER PLANTS

Designed, Erected and Furnished.

Send for new Catalogue, Power Transmission Machinery.

**The MOORE & WHITE CO.**

1312 Buttonwood St., PHILADELPHIA, PA.

Friction Clutches, &c.

Cut-Off Couplings, &c.

Paper Mill
Machinery, &c.

Machine Molded Pulleys, Hangers, Boxes

COUPLINGS AND SHAFTING.

FIRE FRONTS, HEAVY MACHINE CASTINGS

OF ALL DESCRIPTIONS.

HOISTING AND TRANSMISSION SHEAVES.

Get Our Prices Before Purchasing.

Estimates given on Pulleys and Band Wheels to 10 feet in diameter. Send for Catalogue.

TODD PULLEY AND SHAFTING WORKS

EAST ST. LOUIS, ILL.

Subscribe to the MANUFACTURERS' RECORD.

**ECLIPSE FRICTION CLUTCH PULLEYS
AND CUT-OFF COUPLINGS.**

SEATTLE, WASHINGTON TERR., 5 26, 1899.

Eclipse Wind Engine Co., Beloit, Wis.

DEAR SIR: The Clutch Pulley (diam. 106 in., face 21 in) works satisfactorily in every particular, and is a great convenience. We have two, and can stop either the main saws or the "ang e" gear, or both whenever desired, without stopping the engine.

Yours respectfully,
J. D. Lowman, Sec'y.**ECLIPSE WIND ENGINE CO., - Beloit, Wis.**

Send for July, 1899 catalogue, and see where and by whom they are used.

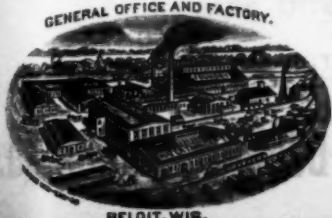
St. JOSEPH, MO., June 24, 1899.

Eclipse Wind Engine Co., Beloit, Wis.

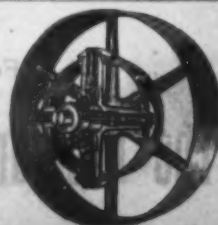
GENTLEMEN: The Clutch Pulley reached us all right; it works to a charm. If we had put it on last April, in place of one we had, we should now be ahead over \$500, which we have lost in time and breakages. Yours,

The Brick & Terra Cotta Mfg. Co.,

F. F. Ramsey, Sec'y.



BELOIT, WIS.



NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

BULLETIN OF PROGRESS.

NOVEMBER 11, 1889.

Railroads.

1. Grading contractors are at work changing the line of the Memphis & Charleston Railroad, so as to pass through the Union Depot at New Decatur. At present it passes through old Decatur only, a mile and a-half away. Grounds for a new freight depot and freight yards have been located in New Decatur.
2. The end of the track of the Decatur, Chesapeake & New Orleans Railway, a connection of the Chesapeake & Ohio system, is within twenty-five miles of New Decatur, and the engineers are locating the line to this point. Grounds for shops and freight yards have been donated them. The road will afford another northern and eastern outlet for New Decatur.

The River.

The first steamboat to pass through the famous obstruction to navigation on the Tennessee River, known as the Muscle Shoals, a few miles below New Decatur, was the "A. C. Conn." She made the trip through the government canals on the 5th instant. The river will be thrown open to navigation before January. The Land Company at New Decatur are building tracks to their new river dock landing to connect it with the railroads.

Freight Rates.

Heretofore New Decatur has been on an unequal footing with other towns in Northern Alabama as regards rates, but this discrimination has been completely remedied by a schedule of rates which goes into effect to-day on all the roads, giving New Decatur the benefit of the lowest rates from all points.

Industries.

1. The charcoal iron furnace, which was leased to the New "Decatur Iron, Land & Lumber Company" on October 22d, is being prepared for blowing in, and the necessary trestling and tracks are being built. The same company has leased the adjoining works of the Decatur Charcoal & Chemical Works.
2. The Decatur Car Wheel Manufacturing Company are making the alterations and additions necessary to double their working capacity, increasing it to 200 wheels daily.
3. The Decatur Lumber Company are expending \$40,000 in additional machinery and other improvements to increase their capacity.

New Buildings.

1. The new and handsome school building, of brick and stone, to cost \$20,000 is nearly completed.
2. The Westminster Presbyterian Church, one of four new churches being erected, was opened and formally dedicated on the 10th instant.
3. Building improvements, both business and private, are steadily going on. A handsome 5 store block, part of the north wing of the projected Casa Grande Hotel building, is completed, and the entire building (680 feet frontage) will be completed according to the original plans next year.

Other Improvements.

The town of New Decatur has placed an issue of \$30,000 of municipal bonds at par for the purpose of street improvements.

Projected Enterprises.

Negotiations will be closed this week for extending the system of manufacturers' switch tracks in New Decatur and forming them into a belt line.

Opening of the Tennessee River.

On November 12th the steamer "A. C. Conn" passed through the Muscle Shoals, on her way from Green Bay, Wisconsin, to Chattanooga. The river is therefore practically open to navigation, though it will not be formally opened for a few weeks. It was a notable trip. Her owners, formerly of Green Bay, but now of Chattanooga, started her from Green Bay to Lake Winnebago through the Fox River canal (built by the Government to connect Lake Michigan with Lake Winnebago), thence across the lake and up the upper Fox River to the Portage canal, thence down the Wisconsin, to Prairie du Chien, Wis., on the Mississippi, thence to the Ohio, thence up the Tennessee to the foot of Muscle Shoals, where she had to lay from May, 1888, until November, 1889. The cities of the Tennessee Valley, Knoxville, Chattanooga, New Decatur, Florence and Sheffield, and all intermediate points, are now, after many long years of labor and the expenditure of millions on the part of the Government, in the possession of cheap water transportation to all points of the Ohio and Mississippi and the Gulf of Mexico.

THE DECATUR LAND, IMPROVEMENT AND FURNACE COMPANY have prepared and will shortly publish for free distribution, a beautifully-printed and illustrated pamphlet of about 60 pages, of a convenient size for the pocket, entitled

"ON THE BANKS OF THE TENNESSEE."

containing 100 questions briefly but fully answered, about Alabama, Northern Alabama, the Valley of the Tennessee and New Decatur. It has been their endeavor to present in a compact, readable and attractive form all the information that may be sought by capitalists, investors, manufacturers in iron, wood or cotton, farmers, stock raisers or mechanics. It will be accompanied by a colored map of Northern Alabama, showing the counties of the Cereal Belt or Tennessee Valley, the iron ore and coal fields tributary to New Decatur, and its railway and river connections with all parts of the United States.

For Maps, Pamphlets and other Information about New Decatur, address

The Decatur Land, Improvement & Furnace Company, New Decatur, Alabama.

Ex-Mayor ABRAM S. HEWITT, of New York, says this section of Alabama "is the only place upon the North American Continent where it is possible to make iron in competition with the cheap iron of England."

BUSINESS POINTS

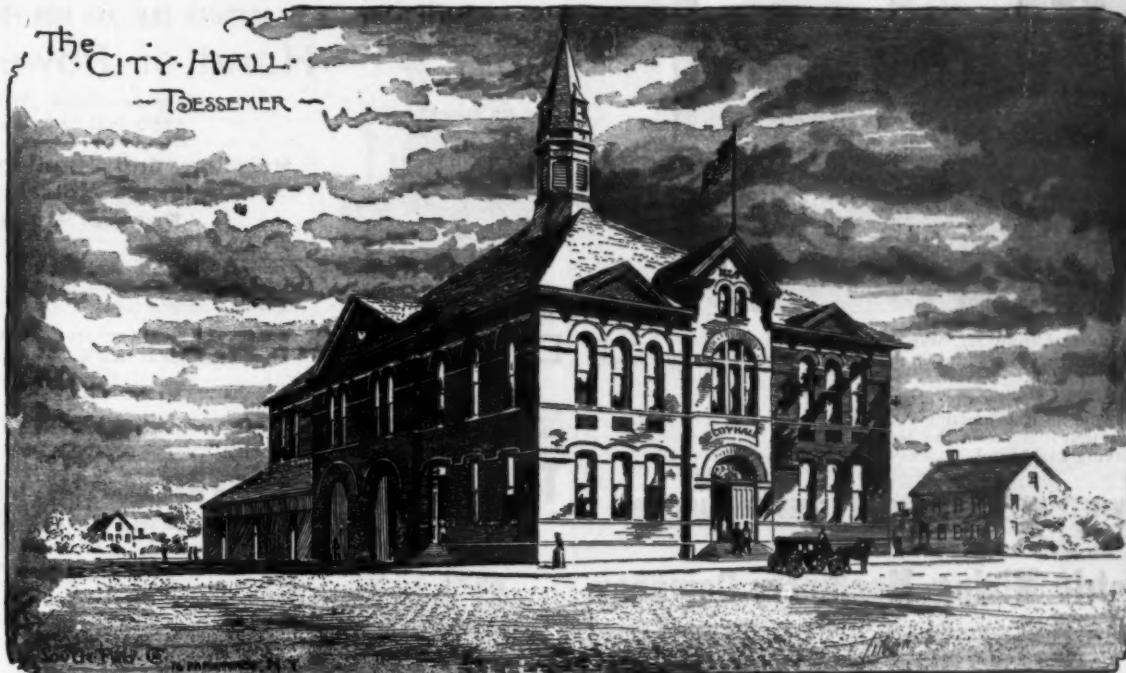
ABOUT

BESSEMER CITY, ALA.

WORTH CONSIDERING BY BUSINESS MEN.

COTTON MANUFACTURING.

With the cotton growing near the mill; at the present cost of spindles in position; cost of nothing; coal delivered to mills at \$1.25 per ton; modern steam machinery with its minimum consumption of fuel, Bessemer offers marked advantages.



100 Fruit, Truck and Dairy Farms.
The Land Company offers on leases for five or ten years, with very liberal terms, One Hundred Farms, 5, 10 and 15 Acres each, and will erect cottages and put up fencing; but only to parties who have, by experience, been successful in these branches of business. Don't want any inexperienced experimenters on any terms.

Bessemer's Iron Foundations.

First.—The DeBardeleben Coal & Iron Company—Two furnaces in blast; two batteries of 170 coke ovens each—340. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 160 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Second.—The Bessemer Steel & Iron Company—Two furnaces go in blast December, 1889; two batteries of 200 coke ovens each. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 100 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Third.—The Little Belle Iron Company—To go in blast December, 1889. One charcoal furnace, situated within the city limits, occupying 50 acres of land, enough for multiplied extensions. Average output 60 tons daily.

Fourth.—The Bessemer Rolling Mills—Situated within the city limits, occupying 18 acres of land. When running full works 700 hands. One hundred tons possible daily output.

Fifth.—In addition to the coal and iron mines above referred to, in connection with the five furnaces, these proprietors own the **MAGNETIC ORE LAND COMPANY**. The total coal, iron and limestone lands owned by these corporations amount to over

200,000 ACRES.

The **EARLIEST SELECTED** and choicest lands in Alabama, all directly tributary to the City of Bessemer, representing, with furnaces, rolling mills, etc., an aggregate of \$8,000,000, not including other lines of business.

Iron Manufacturers in Bessemer will have a direct advantage of \$2.50 to \$3 per ton on the cost of Pig Iron, compared with Pennsylvania Prices.

TRANSPORTATION EVERYWHERE UNEXCELLED.

The Queen & Crescent Line—Cincinnati to New Orleans.

The Louisville & Nashville Lines.

The Georgia Pacific and Danville Lines.

The Kansas City, Memphis & Birmingham Line.

The Birmingham & Bessemer Railroad runs trains every hour to Birmingham.

The Bessemer & Huntsville is completed as far as Chepultepec.

The Bessemer & Tuscaloosa is completed to Woodstock, a distance of thirty miles, lacking only eighteen miles of reaching Tuscaloosa.

The Bessemer & Selma has been surveyed and grading will soon commence.

The Mobile & Bessemer, an extension of the East Tennessee, Virginia & Georgia, is in process of rapid construction.

The Sheffield & Bessemer is projected to Bessemer. It is now built as far as Jasper, forty miles northwest.

The Birmingham, Powderly & Bessemer Street Railway, Bessemer to Birmingham, will be running by November 1st, half the line being now graded.

WOOD-WORKING INDUSTRIES—The primeval forests of Alabama, tributary to Bessemer, offer manifold attractions to Wood-Working Manufacturers.

CORRESPONDENCE SOLICITED. For particular information as to price of lots, manufacturing sites and inducements to establishing plants in this unrivalled locality, address

H. M. McNUTT, Secretary.

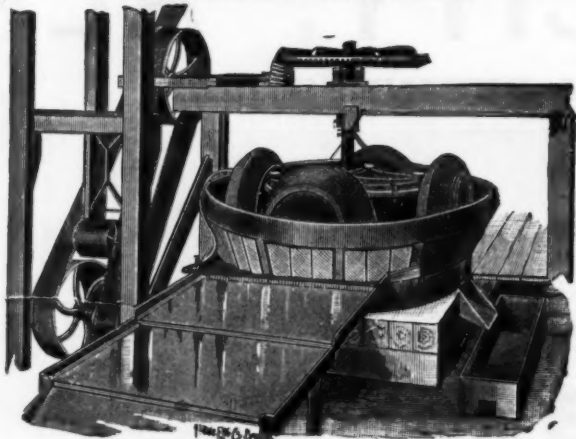
W. H. Fontenay
President

President

* WISWELL *

Ore Pulverizer and Amalgamator

COMBINED.



The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of Stone Breakers and Ore Crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saving machine I have ever seen. Please accept congratulations for your success.

S. L. MARSDEN.

WE FURNISH A COMPLETE MILL FOR \$2,500, DELIVERED ON BOARD CARS.

FOR FURTHER INFORMATION ADDRESS

Wiswell Electric Mining Machinery Company,

4 POSTOFFICE SQUARE,

A. A. REEVE, Treasurer.

BOSTON, MASS.

BUY THE BEST.

Bullock's Diamond Prospecting Core Drills,

For Surface or Underground Prospecting.

The Only Drills that will give an Accurate Record of every Strata Penetrated.

ALL DRILLS SOLD WITHOUT RESTRICTIONS.

Lane's Band Friction Hoisting Machinery

Drums from 2 Feet to 25 Feet in Diameter.

Improved Co liss Engines,

Slide Valve and Straight Line Engines,

Eclipse Rock Drills, Air Compressors,

Channeling and Quarrying Machines.

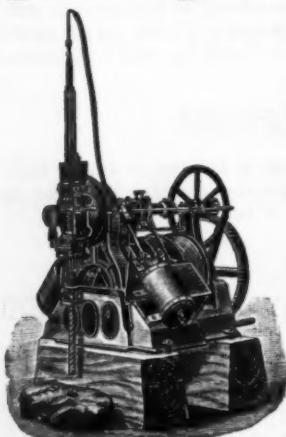
M. C. BULLOCK MFG. CO.

No. 138 Jackson Street,

Write for what you want.

CHICAGO.

Cable Address: BULLOCK, CHICAGO.

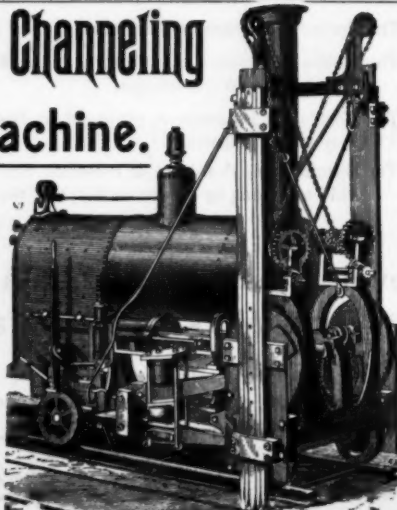


Diamond Prospecting Drill.

THE Wardwell Stone Channeling AND Quarrying Machine.

WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

Steam Stone Cutter Co.
RUTLAND, VERMONT.



SULLIVAN DIAMOND

Prospecting Core Drills.

THE MOST RELIABLE AND
SATISFACTORY MADE FOR PROSPECTING FROM THE
SURFACE OR UNDER GROUND.

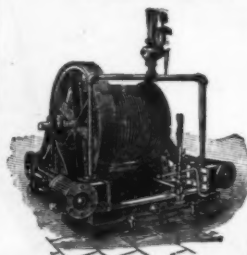


RAPID! ACCURATE! ECONOMICAL! "N" Drill—Capacity 2,000 feet.

SPECIALLY ADAPTED TO SOUTHERN COAL AND IRON FORMATIONS.

Hand or Power Drills,

Capacities 300 to 4,000 feet. All sizes in stock.
SEND FOR CATALOGUE.



Hoisting Engine—Class "D."

**Hoisting and Hauling Engines,
Exploring Hoists, Steam
Pumps, Boilers.**

Underground Haulage by Wire Rope a specialty.
Estimates furnished on complete plants. Contractors for
prospecting mineral lands with the Diamond Core Drill.

DIAMOND PROSPECTING CO.

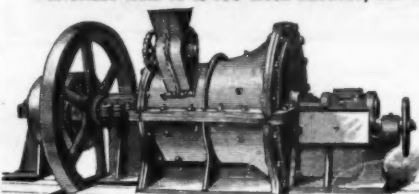
74 and 76 W. Lake Street,

Eastern Office, 15 Broadway, New York.
Cable Address, "DIAMOND, CHICAGO."

CHICAGO, ILL.

The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



Better than buhr mills for pulverizing
Phosphates, Plumbago, Cement, Foundry
Facings, Iron for Paints, Gold and Silver
Ores, Flint Rock for Glass, Coke for Car-
bons, Paints, Asphalt Materials, Feldspar,
Red Ochre, Sandstone, Limestone and
Calcined Lime. Correspondence solicited.
Send for samples of different products.

F. H. MOORE,
Manufacturer,

48 City Hall Bldg., Cleveland, O.

Gates Rock and Ore Breaker

CAPACITY IN TONS OF 2,000 POUNDS.

Size 0-2 to 4 tons per hour	Size 4-15 to 30 tons per hour
" 1-4 to 8 "	" 5-25 to 40 "
" 2-6 to 12 "	" 6-30 to 60 "
" 3-10 to 20 "	" 7-40 to 75 "
	" 8-100 to 150 "

Passing 2 1/2 in. ring, according to character and hardness of material.

Great SAVING IN POWER. Adjustable to any Degree of Fineness.

"The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stone Breaking Machinery."

Send for Catalogue, containing over 500 references of Contractors, Miners, Railway Companies, Cement Makers, etc.

GATES IRON WORKS,

50 S. CLINTON ST., CHICAGO, U.S.A.

13 Cortlandt St., New York, U.S.A.

75 Queen Victoria St., E. C. London, Eng.

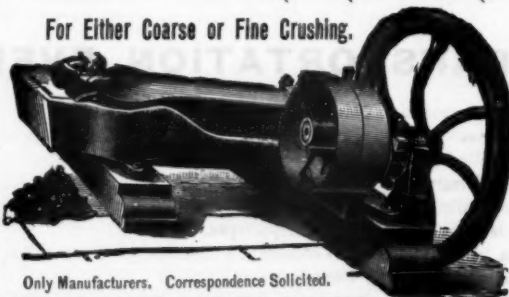


Forster's Patent Rock and Ore Breaker

For Either Coarse or Fine Crushing.

NEARLY 400 IN USE.

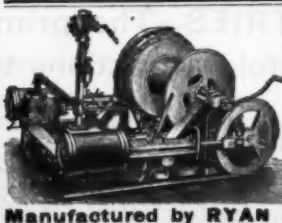
FOR
MINES, RAILROADS
AND
MACADAM.



Only Manufacturers. Correspondence Solicited.

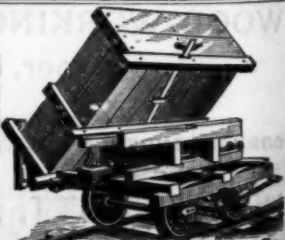
Does the work of any other
Breaker with but one-third the
power and one-half the expense
of keeping in repair.

TOTTEN & HOGG IRON & STEEL FOUNDRY CO., Pittsburg, Pa.



Manufactured by **RYAN & McDONALD,**
Shops and Warehouses, WATERLOO, N. Y.
Send for Illustrated Catalogue and Prices.

Contractors' and Steam
Shovel Cars, Derrick Fix-
tures, Winches, Hoisting
Engines, Hoisting Drums,
Stationary and Portable
Engines, Boilers, Stand
Towers, etc.
WATERLOO, N. Y.
BALTIMORE, MD., No.
44 SOUTH ST.



All correspondence should be addressed to Waterloo office.

Improved Eureka Dry Press Brick Machine.

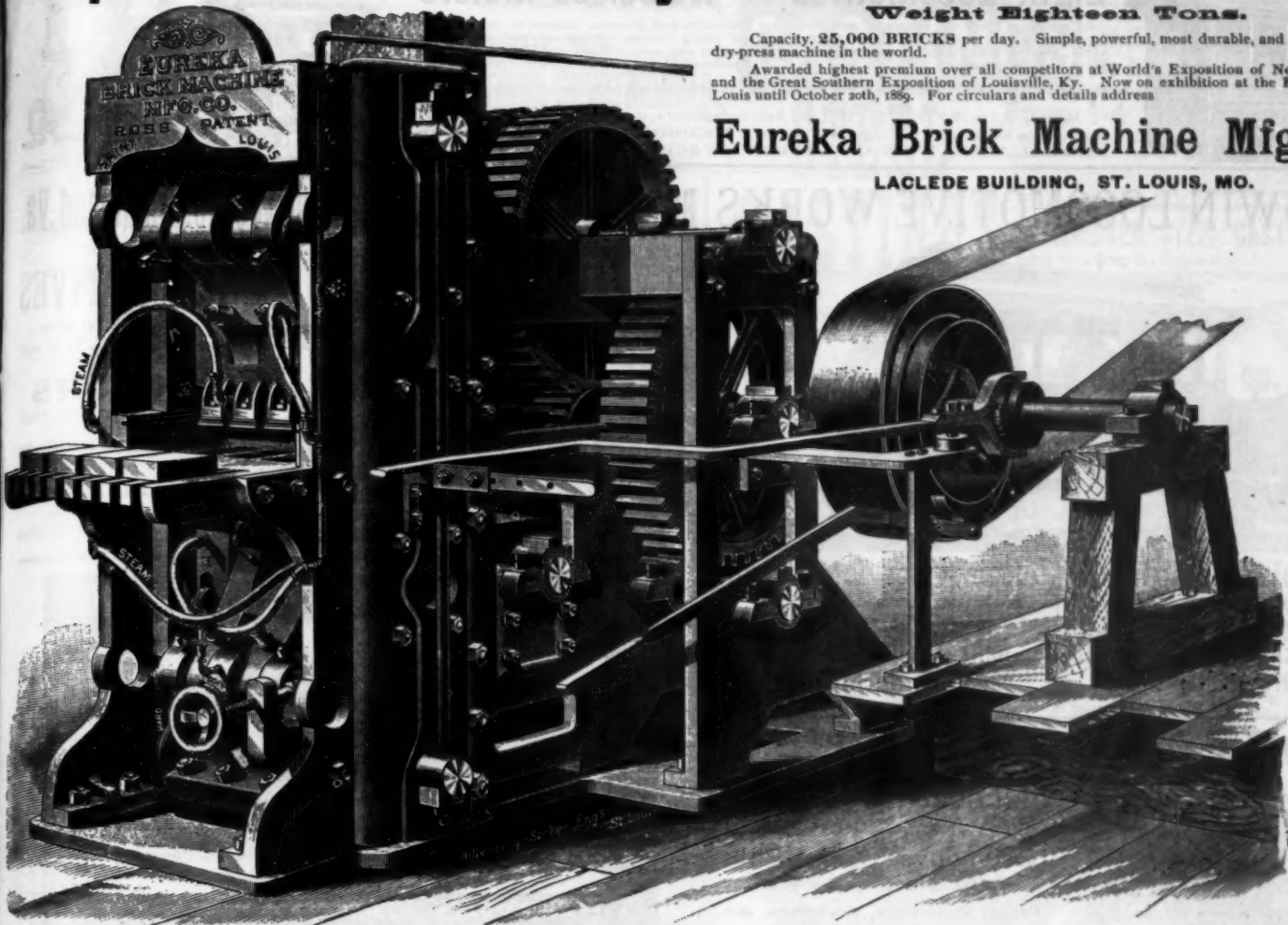
Weight Eighteen Tons.

Capacity, 25,000 BRICKS per day. Simple, powerful, most durable, and superior to any dry-press machine in the world.

Awarded highest premium over all competitors at World's Exposition of New Orleans, La., and the Great Southern Exposition of Louisville, Ky. Now on exhibition at the Exposition in St. Louis until October 30th, 1899. For circulars and details address

Eureka Brick Machine Mfg. Co.

LACLEDE BUILDING, ST. LOUIS, MO.



BRICK • MACHINERY.



THE NEW QUAKER

is the best and most reasonable in price of any first-class Brick Machine made. Send for illustrated catalogue, giving full particulars and prices before purchasing.

Both Horse and Steam Machines.

PUG MILLS, MOLD SANDING MACHINES, MOLDS, BARROWS, AND ALL BRICKMAKERS' SUPPLIES.

Fletcher & Thomas, Indianapolis, Ind

THE BREWIS BRICK PRESS

Patented August 18, 1886, January 8, 1889.

FOR MAKING PERFECT BRICK—

—FROM DRY OR SEMI-DRY CLAYS.

Machines Warranted and sold to responsible parties on thirty days' trial. Weight of two-mould machine, 14,000 pounds. Capacity of two-mould machine, 8,000 to 16,000 perfect brick in ten hours. Send for circulars and prices to sole licensed builders.

CHAS. KAESTNER & CO.

Machinists, Founders, Engines, Shafting, Pulleys, &c.

808-811 S. CANAL STREET, CHICAGO, ILL.

WE TEST ALL CLAYS SENT PREPAID FREE.

Chambers' Brick Machinery



15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.

McLANAHAN & STONE, Engineers and Manufacturers,
GAYSPORT FOUNDRY, HOLLIDAYSBURG, PA.

Blast Furnace, Rolling Mill and Heavy Castings and Machinery for all purposes.

ORE JIGS, IMPROVED ORE WASHERS,
with Revolving Screens and Picking Tables.

Elevators and Conveyors, Etc.

Complete Plants for washing HEMATITE ORES at Least Cost.



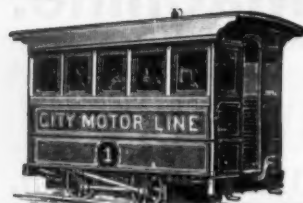
Send for Illustrated Catalogue.

Mention Manufacturers' Record.

DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c. Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Maries Railways, Clay Temperers. Send for Catalogue.

JAMES MURRAY & SON, 102 to 108 York Street, Baltimore, Md.

H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.**Light Locomotives and Noiseless Motors**

All gauges of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

All sizes and patterns, adapted to steep grades and sharp curves. Noiseless and smokeless. Cheaper and more reliable and efficient, and less objectionable than electric or cable system.

Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GAUGE.

**BALDWIN LOCOMOTIVE WORKS**

ESTABLISHED 1831.



ANNUAL CAPACITY 800.

Locomotive Engines, Locomotives for Logging

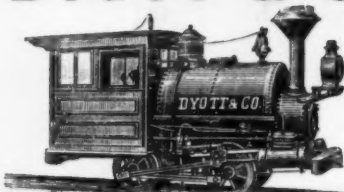
Adapted to every variety of service, and built accurately to standard gauges and templates.

RAILROADS AND SUGAR ESTATES.

STEAM TRAMWAY MOTORS, MINE LOCOMOTIVES.

Burnham, Parry, Williams & Co., PROPRIETORS, 500 N. BROAD STREET, Philadelphia, Pa.

In writing, please refer to Manufacturers' Record.

DYOTT & CO. 52 WALL STREET, NEW YORK.**RAILROAD EQUIPMENT**

AND SUPPLIES,

Locomotives, Cars, Rails, FASTENINGS, SPIKES, ETC.

Frogs, Crossings, Switches, &c.

Securities Negotiated. Contracts Taken.

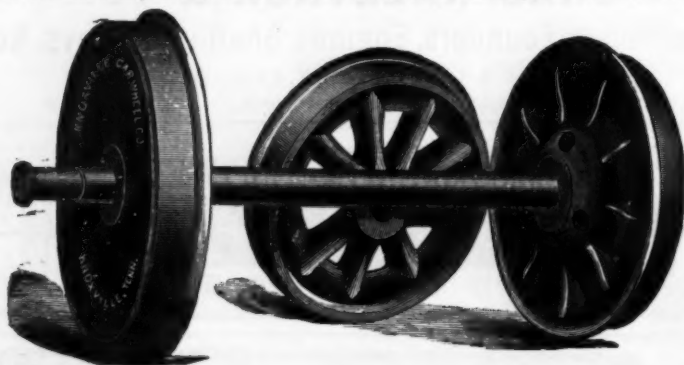
Knoxville Car Wheel Co.

—KNOXVILLE, TENN.—

Manufacturers of All Kinds of

CHILLED WHEELS

For Railroads, Street Railroad. Ore and Coal Mines, and Lumbermen.



Steam Hammers,
Steam Hoists,
Foundry Cupolas,
Derricks, Crabs,
Horse Powers,
Shieves, Drill Heads,
Gearing, Pulleys,
Bolts of all sizes,
Locomotives and Engines
Repaired and Indicated.

CORRESPONDENCE SOLICITED.

Steel and Iron Boilers,
Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings,
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if
desired, with Oil Boxes
and Bolts.

MENTION THIS PAPER.

Richmond Locomotive & Machine Works, Richmond, Va.

ESTABLISHED IN 1865.

Builders of

LOCOMOTIVES

for every variety of service to Standard Designs or to meet views of purchasers.

MOTORS

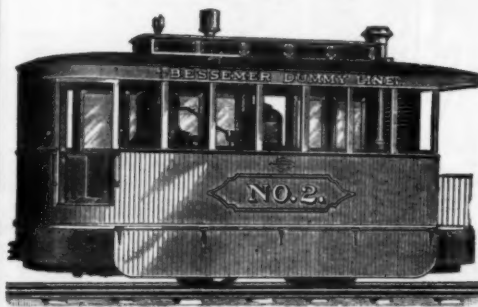
for Street Railways, Tram Roads and Mines.

Stationary Engines for heavy duty.

BOILERS,

Standard or Special.

Send for Catalogues, Specifications and Estimates.

**JOHN STEPHENSON COMPANY NEW YORK**

TRAMWAY CARS OF EVERY DESCRIPTION
LIGHT, ELEGANT, DURABLE

BYRD WARWICK,
President.

J. T. ANDERSON, Sec'y and Treas.
(Late with Tredegar Co.)

R. W. JEFFERY, Supt.
(Late with Tredegar Co.)

The Richmond Standard Spike Co., Richmond, Va.

Manufacturers of Dock, Ship and Railroad Spikes.

STEEL RAILS**PENNSYLVANIA**

Standard Sections

Light Sections

Street Rails

Fish Plates,

Frogs, Switches

STEPHEN W. BALDWIN
SALES AGENT

STEEL COMPANY

50 to 80 lbs. per yard

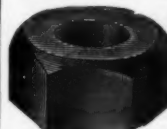
16 " 45 " " "

30 " 88 " " "

Bolts & Nuts,
and Crossings.

NO. 2 WALL STREET
NEW YORK N.Y.

16 lbs. Full Size.

**HOOPES & TOWNSEND.**

PHILADELPHIA,

—AND—

THE HOOPES & TOWNSEND CO.

WILMINGTON, DEL.

MANUFACTURERS

Machine and Car Bolts.

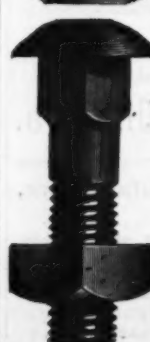
Keystone Boiler Rivets made in Solid Dies.

Cold Punched, Chamfered, Trimmed and Drilled, Square and

HEXAGON NUTS.

Bridge Rivets,
Split and
Single Keys.

WASHERS,
Tank and Coopers'
RIVETS.



MAGNOLIA METAL.



ENDORSED BY
United States & German Governments.

Best Anti-Friction Metal
FOR

Steamship, Car and All Machinery Bearings.

MAGNOLIA ANTI-FRICTION METAL CO.

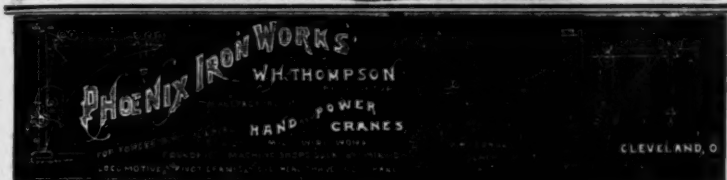
Owners and Sole Manufacturers,

LONDON OFFICE:
75 Queen Victoria Street.

74 Cortlandt St., New York.



PHOSPHOR-BRONZE
INGOTS, CASTINGS & MANUFACTURES.
THE PHOSPHOR BRONZE SMELTING CO. LIMITED
512 ARCH ST. PHILADELPHIA PA. U.S.A.
ORIGINAL MANUFACTURERS OF PHOSPHOR-BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS



THE BILLINGS & SPENCER CO
HARTFORD CONN
MANUFACTURERS OF
DIES MADE IN 5 SIZES CUTTING
THREADS FROM 1/16 OF AN INCH
TO 2 INCHES V. THREAD ALSO
U.S. STANDARD AND WHITWORTH THREAD
DROP FORGED OF BAR STEEL.

MACHINE SHOP AND BLACKSMITH EQUIPMENTS

* A SPECIALTY. *

Engine Lathes, Chucks, Drill Presses, Shaping Machines, Power Hammers, Bolt and Nut Machinery, Portable Forges, &c. Pressure Blowers and Emery Grinding Machinery. Send for Catalogue of Machine Tools, stating exactly what is required, so that prices may be quoted. Delivered your station if so desired.

W. E. DREW, Agent,
S. C. FORSAITH MACHINE CO. Machine and General Machinery Dealers. **Manchester, N. H.**

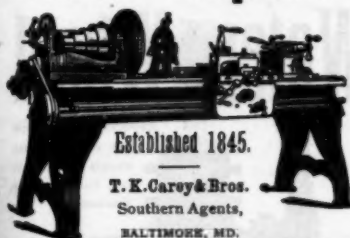
Build & Repair Your Machinery

BY USING

Engine Lathes, Planers,
Chucking Lathes, Hand Lathes,

MACHINE TOOLS GENERALLY
MANUFACTURED BY
LATHE & MORSE TOOL CO.

Worcester, Mass., U. S. A.



WORKSHOPS

WITHOUT STEAM POWER

BARNES'
Patent Foot Power Machinery. COMPLETE
Outfits for actual workshop business.
With them Builders, Cabinet
Makers, Metal and Wood Work-
ers compete with steam power.
Machines sent trial if desired.
Proof of value, prices, full
detail, illustr'd catalogue, free.
W. F. & JOHN BARNES CO.
Rockford, Ill.
Address No 221 Ruby St.
T. K. CAREY & BROS., 36 Light
Street, Baltimore Agents.



Barnes' Pat. Upright Drills
20-inch Swing, with both
Worm and Lever Feed.



Barnes' Pat. Engine Lathe
15-inch swing, 6-foot or 8-foot bed.
These machines are made a specialty
in our factory, they have advantages
not found in other machines in this
line. It will pay parties desiring to
purchase, or have more about the
line of machines, to send for full
description and prices.
W. F. & JOHN BARNES CO.
221 Ruby St., Rockford, Ill.

SOUND STEEL CASTINGS

STEEL CASTINGS

From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger and more durable than iron castings in any position or for any service whatever. 40,000 CRANK SHAFTS and 20,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description. Send for circulars and prices at

CHESTER STEEL CASTINGS CO.

Office, 407 Liberty St., Philadelphia.

Works, Chester, Pa.

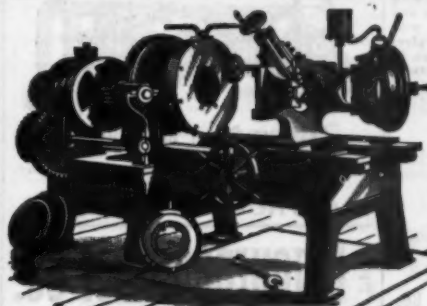
The Bookwalter Casting Co.

Are now fully prepared to furnish STEEL CASTINGS on short notice, of any size and pattern, made under the Bookwalter & Robert Patents. These castings are guaranteed to be sound and true to the pattern and of unequalled tensile strength and ductility. Address

The Bookwalter Casting Co., Springfield, O.



D. SAUNDERS' SONS



MANUFACTURERS OF
Pipe Cutting and
Threading Machines,
For Pipe Mill and Steam
Fitters' Use.

Tapping Machines

For Steam Fitting. Also,
STEAM AND GAS FITTERS
HAND TOOLS,
Athenron Street.
Send for Catalogue B.

SEND FOR CIRCULARS.

YONKERS, N. Y.

THE EXCLUSIVE USE OF THIS FENCE FOR ADVERTISING PURPOSES HAS BEEN
SOLD TO PANCOAST & MAULE, PHILADELPHIA, PA.
ANY ONE CAUGHT DEFACING THIS SIGN WILL BE PROSECUTED



THE "EUREKA" PIPE CUTTER

IS THE MOST DURABLE MADE.

A NEW JAW ABOUT ONCE A YEAR WILL MAKE IT LAST INDEFINITELY.

IT IS CHEAP BECAUSE IT IS SO DURABLE.

IT IS ALSO CHEAP BECAUSE IT COSTS SO LITTLE MONEY.

Any one who uses or deals in

— PIPE CUTTERS —

Should write us for Price-List of the

"EUREKA CUTTER."

PANCOAST & MAULE, Philadelphia, U. S. A.

Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference

Stuebner & Woods

MANUFACTURERS OF

**Self-Dumping Steel & Iron
Hoisting Tubs,**Side and Bottom Dumping
Cars for Coal Elevators,
Iron Wheelbarrows, Hoisting
Blocks, Bottom-dumping Tubs
for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.

Send for circular and price-list.

EAGLE IRON WORKS

DETROIT, MICH.

MANUFACTURERS OF
**VERTICAL AND HORIZONTAL
ENGINES, SHAFTING, PULLEYS
AND HANGERS****BOILERS**
OF ANY DESCRIPTION.
CASTINGS & FITTINGS
OF ALL KINDS.Satisfaction guaranteed. Correspondence solicited.
C. J. O'HARA, General Manager.

**THE AUTOMATIC
Bray & Nickerson GAGE GLASS**

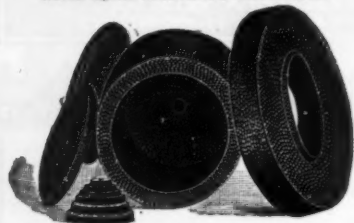
Positive in Action
Simple in Construction.
Easily Attached and Adjusted.
Thoroughly Tested.
Guaranteed in Every Particular.

These glasses are fitted with Patent Automatic Valves set within the boiler, which will instantly close in case of leakage, with stuffing boxes for glass tubes which permit broken glasses and packing to be removed without delay, and which will not cause the glass to break by its expansion, and with first class Valves with lapped seats and stuffing boxes with glands. These valves may at any time be removed to reset while steam is on.

Agents Wanted.

Bray & Nickerson Automatic Gage Glass Co.
34 Oliver Street, Boston.**Emery and Corundum Wheels.**

EVERY WHEEL MACHINE & FLINT PAPER.



All goods manufactured by us are guaranteed to give satisfaction. Give them a trial on their merits. Write for circular.

SPRINGFIELD EMERY WHEEL MFG. CO.
Successors to SPRINGFIELD GLUE & EMERY WHEEL CO.
SPRINGFIELD, MASS.**ROLLER and
Detachable Chain Belting,**

Detachable in Every Link,

FOR IMPROVED

**ELEVATORS,
CONVEYERS,**

AND

Driving Belts

FOR HANDLING

**Coal, Ores, Grain,
CLAY, BRICK, &c.**

ADDRESS

The Jeffrey Mfg. Co.

121 W. STATE ST.

Columbus, O.

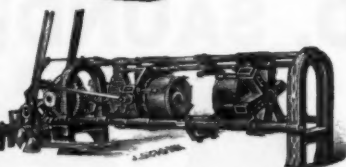
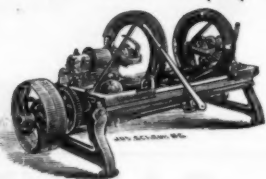
Also manufacturers of the
Legg Coal Mining Machines
and Rotary Power Coal
Drill. Send for Illustrated
Catalogue.**WHICH? BUTTER OR
CHEESE.**If either, or both, send for
J. S. CARTER'S Illustrated
Catalogue, which gives full in-
formation of latest and best method
and appliances for making Cheese
or Butter, from the largest fac-
tory to the smallest dairy.
Carter's Cream Churning
System of Butter Making a Success.
JOHN S. CARTER, Syracuse, N. Y.**R. M. JOHNSON,**

WHEATLAND, VA.

Manufacturers' Agent and Dealer in Corlies
Automatic Cut-off and Plain Slide Valve**Steam Engines and Boilers.**Saw Mills, Machinists' Tools Wood-working
Machines, Mining, Brick, Ice, Grist Mill, Can-
ning and Dairy Machinery a Specialty.
Complete Outfits Supplied at Lowest Prices.
Correspondence solicited.**E. & B. HOLMES,**

BUFFALO, NEW YORK,

MANUFACTURERS OF

Barrel Machinery.**Chambers Patent Barrel Heater.**Capacity, 300 tight or 500 slack barrels per day.
The best Heater made.**E. & B. HOLMES, Sole Agents.****THE SIGOURNEY TOOL CO.**
HARTFORD, CONN.

One, Two and Three

**Spindle
DRILLS.**

Sensitive,

STRONG

—AND—

**Workmanship
UNEQUALLED.****Special Machinery, Tools, Models, &c.**
Built by Day or Contract.
THOS. K. GAREY & SONS, AGENTS, BALTIMORE.**BERNHARD DIETZ, Manufacturer of Printers' Rollers**
and Roller Composition. Factory, N. E. Cor. Grant
and Mercer Sts., Baltimore. Prices: Composition (bulk)
30 cents per pound; for casting, 40 to 50 cents per pound.
Orders by mail promptly attended to.**SHEPARD'S New \$80 SCREW-CUTTING FOOT LATHE**Foot and Power Lathes, Drill
Presses, Scroll Saw Attachments,
Chucks, Mandrels, Twist Drills,
Dogs, Calipers, etc.
Lathes on trial. Lathes on
payment.
Send for catalogue of Outfits
for Amateurs or Artisans.
Address **H. L. SHEPARD, Agent,**
134 E. 2d Street, Cincinnati, Ohio.**WEBSTER'S "VACUUM" EXHAUST STEAM ECONO-
MIZER** utilizes the exhaust for heating buildings,
etc., returning the condensation to boiler, and for making
hot and purified water for boiler feeding and other pur-
poses. Send for pamphlet. **WARREN WEBSTER & CO.,**
491 N. Third Street, Philadelphia, Pa.**Kroeschells & Bourgeois'**

PATENT

FEED WATER HEATER.For Heating Water by EX-
HAUST STEAM. We guar-
antee to heat the feed water
to within a degree or two of
temperature of the exhaust
steam. The great trouble with
other heaters, caused by the
early and frequent corroding
of Flues is obviated in our
Heater—the material of tubes
being the BEST OF BRASS.
No back pressure to engine.
All sizes from 30 to 1,000 h. p.
and larger. Saves boiler re-
pairs. Saves fuel.
Office and Works:
4 to 12 Michigan St., Chicago, Ill.**The Wainwright Corrugated Copper Tube
Heater. Over 60,000 in use.**Highest results ob-
tained with exhaust
steam alone without
back pressure.The most care-
fully constructed
Heater in the
market.Coil, Vertical
and Horizontal
Straight Tube Heat-
ers. Heaters for
compound Condens-
ing Engines. Ex-
pansion Joints, Fil-
ters and Condensers.
Prices very low.
Heaters constructed
of Cast Iron and
Steel Shells, Cop-
per Tubes, Brass
Connections. No
Wrought Iron to
rust out. Send for
new illustrated
catalogue.**THE****Wainwright Mfg Co**

OF MASS.

Factory, Medford,

34 Oliver St., Boston.

F. B. ASPENWALL, Mgr., 115 Liberty St., New York.

FAIRBANKS & Co, Mgrs., 707 Arch St., Phila., Pa.

H. S. WALKER, Mgr., 8 & 10 S. Canal St., Chicago, Ill.

**POWELL'S Grease Cups**Is & Patented for Eng- use,
ALL IRON for Line Shanting.
With Patent Cut-off for Regulating Flow of Grease.
For Sale by **THOS. C. BASSOR & CO., Baltimore, Md.****The WM. POWELL CO., Cincinnati, O.**
Also a full line of Steam Brass Work**TAPER-SLEEVE PULLEY WORKS**

211 W. 12TH ST.

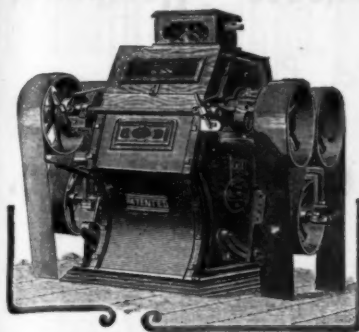
ERIE, PA.

Manufacturers of
Taper-Sleeve Wood
Belt Pulleys, Adju-
stable Dead Pulleys
Friction Clutch Pul-
leys, Friction ClutchCouplings, Wood
Pulleys in Halves,
Taper-Sleeve and
Compression Cou-
plings, Shafting, Post
and Drop Hangers.
Correspondence so-
licited.
Patent-Clutch Pulley.**Property Owners****A Volume of Information
On Tin Roofs Free
of Cost.**If you have decided to place a tin roof
upon your house you should, in justice
to yourself, obtain the best possible in-
formation in regard to tin for roofing
purposes. No property owner can af-
ford to remain ignorant, when a whole
volume of information devoted to the
selection, laying and painting of a tin
roof can be had for the asking. Messrs.
Merchant & Co., of this city, are con-
sidered to be authority on tin roofs.
They have devoted much time, labor
and money in presenting, in readable
shape, a mass of facts upon this sub-
ject, which are of great interest to prop-
erty owners. The constant inquiry from
property owners for these books evinces
the fact that there is considerable quiet
thinking being done just now by a large
number of gentlemen, who have hereto-
fore given the subject very little
consideration. What the outcome will
be, almost anyone can anticipate. A
better class of roofing is sure to follow
as a natural consequence. A wise prop-
erty owner will send for Merchant &
Co.'s new book; and, after reading it,
he will certainly conclude that there
was much that he did not know upon
the subject of tin roofs.—*Philadelphia
Real Estate Record, Sept. 11, 1890.***The Belden Machine Co.**
NEW HAVEN, CONN.**Rome Foundry & Machine Works,**
ROME, GA.

Manufacturers of the well known

DAVIS DOUBLE TURBINE**Water Wheel**Beyond all question
one of the best
wheels on the mar-
ket, and is fully
guaranteed.
Send for Illustrated
Catalogue and Price List.**Portable & Stationary Engines**
AND BOILERS,
Grist & Flouring Mill Machinery.

Read What a New York Miller Says of the Case Company.



OFFICE OF PETER SNYDER,
DEALER IN FLOUR, FEED AND LUMBER,

MANLIUS STATION, N. Y., October 28, 1889.

The Case Manufacturing Company, Columbus, Ohio:

GENTLEMEN: After running my mill over two months, I feel it my duty and in justice to you to state that I am more than pleased with the mill you built for me. It started like a clock "from the word go". My flour is discounting the fanciest brands of flour in the market. My clean-up is equal to any mill in the State. I will say that the Case Rolls and Flour Dressers cannot be beaten in the world for light running and ease of access to all their parts. I would advise any miller building a new mill or remodeling an old one to place their contract with the Case Company.

Thanking you for the prompt and efficient manner in which you furnished my machinery in so short a time, after so great a loss and damage by fire burning your works, and with the best of wishes I remain,

Yours respectfully,

PETER SNYDER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



THE CASE MANUFACTURING CO., Columbus, Ohio.

TRADE NOTES.

ROBERT COLEMAN, of Lebanon, Pa., will make extensive improvements at his Cornwall anthracite furnaces, and has just contracted with Messrs. Gordon, Stroebel & Laureau, Limited, of Philadelphia, for this work, which includes two plants of Gordon fire-brick stoves.

ROLLING STOCK AT A BARGAIN.—E. H. Wilson, 222-224 South 3d street, Philadelphia, offers for sale a six-wheel saddle tank shifting engine just out of the shops, which has been thoroughly repaired; also a number of second-hand passenger coaches recently overhauled and ready for service.

THE Thomson-Houston Electric Co. reports the following sales of incandescent apparatus to local companies: Athens, Ga., 650; Somerville, Mass., 650; Elizabeth, N. Y., 650; Tuscaloosa, Ala., 650; Sioux Falls, Dak., 75; Hastings, Minn., 300; Huntingdon, Pa., 650; Ottumwa Railway, Electric & Steam Co., Ottumwa, Iowa, 1,300.

THE enterprising firm of Nolen, Madden & Co., of Rushville, Ind., manufacture an improved system of brick machinery that is specially adapted for working Southern clays. Where a first-class plant of this description is wanted, brick-makers should write for illustrated and descriptive catalogue of Nolen, Madden & Co.'s machinery and supplies.

THE Union Electric Car Co., office, 18 Postoffice square, room 4, Boston, Mass., claims to own the most perfect system of electric motors yet devised. The system calls for the use of storage batteries, and has been thoroughly tested on the Beverly & Danners (Mags.) Railroad, and developed a speed of from 16 to 20 miles per hour over steep grades. No overhead wires are used. The Union Co.'s system claims to minimize expense and to develop the largest show of power. F. W. Prescott & Co., 54 Devonshire street, Boston, offer a limited amount of the Union Co.'s stock at \$25 per share, and invite correspondence, all checks to be made payable to F. W. Prescott & Co.

TURBINE WATER WHEELS.—The Rodney Hunt Machine Co., of Orange, Mass., whose card appears in this issue, do a continental business. They are filling an order for five of their turbine water wheels for a company in Guatemala, Central America, who propose running a large electric-lighting plant by means of an exceptionally large water-power. The firm have recently furnished sets of wheels for the Continental Mills, Lewiston, Me.; the Columbian Mills, Greenville, Mass., and for Crocker & Burbanks' Paper Mill, Fitchburg, Mass. The water-power of the South is limitless, and the turbine is the best of water wheels. The Rodney Hunt Co. are prepared to fill orders with satisfaction and dispatch.

Attention, Investors!

One of the awakened old towns of the South is Danville, Va. This city has long held high rank as a center of the tobacco trade, but of late years it has caught the spirit of progress, and its business men and capitalists have grasped the idea that the town has a future before it, limited in its greatness only by the measure of confidence and enterprise which its citizens may display. The city numbers about 12,000, exclusive of the suburb of North Danville, and has a taxable basis of \$12,000,000. It is thoroughly equipped with all the essentials of modern urban life, such as sewerage, electric lights and electric street cars, telephone service, gas, water, fire department, schools, colleges, free postal delivery and all the conveniences of metropolitan life. Indeed, many cities of greater size and pretensions are inferior to Danville when judged by live and progressive standards. The city is not only a great tobacco mart, both in exports and manufacturing, but has other important industries, such as cotton mills, foundries and machine shops, &c., and diversified manufactures are steadily multiplying. It is on the main line of the great Richmond & Danville Railway system, at the junction of the Virginia Midland, and is the starting point of the Danville & New River Railroad, an important railway that traverses a rich timber country and can be profitably extended. Besides, by February 1st next, the Atlantic & Danville Railroad will be open to Norfolk, Va. This road, too, is extending rapidly to the coal fields of Southwest Virginia. These facts make Danville a good place for profitable investment, and hence attention is called to the advertisement in this issue by W. H. and E. R. Buntin, of Danville, of the forthcoming sale of the Arlington Hotel, four brick stores, Lee's warehouse (tobacco) and two commodious brick factories, in all valued at \$150,000, which will take place on December 12th next. The property is fully described in the advertisement, and is exceptionally worthy of the attention of investors.

THE Ocean Grove Camp-meeting Association, Ocean Grove, N. J., have arranged to greatly enlarge their electric lighting plant between now and next spring, and have contracted with the Heisler Electric Light Co., of St. Louis, for two of their largest dynamos. The previous orders of this association covered four Heisler dynamos.

THE PERFECTION MEAT CUTTER.—The American Machine Co., Lehigh avenue and American street, Philadelphia, meet a particular family need with their "Perfection meat cutter," a machine that will be found handy by the average housewife in preparing not only meats, but vegetables and fruits which need to be cut or chopped on their way to the table. The proprietors issue a neat descriptive pamphlet, which contains a valuable collection of recipes.

GEM SPRING HINGES.—The Van Wagoner & Williams Co., New York, N. Y., offer a specialty in the "Gem" spring hinges, single-acting surface, designed particularly to screw on marble for water-closet doors in hotels, offices and public buildings. They may be used equally as well with other screen doors, and can be made to open as well as close doors if desired.

A COTTON MILL FOR SALE.—Thomas P. Baldwin, 5 and 7 West German street, Baltimore, announces in this issue the auction sale on December 5 of the Manchester Cotton Mill, at Manchester, Cumberland county, N. C. The mill is located one-half mile from a station on the Cape Fear & Yadkin Valley Railroad. The capacity of the mill is 1,750 spindles and 55 looms. It is fitted for the manufacture of plain checks and other colored goods, and can turn out 2,500 yards per day and about 750 pounds of yarn daily. The mill has water and steam-power, and can be run with little expense for fuel.

"THE COLLIAU"

NEW AND IMPROVED
HOT BLAST CUPOLA,
(patent March, 1884), and New
Smokeless and Automatic Feed
Boiler (pat. 1886, in U. S.)
Correspondence solicited for
plans of foundries and the economical
working of cupolas, the
saving of fuel in melting iron
and steel, and in the production
of steam. Address VICTOR
COLLIAU, Mechanical Engineer
and Architect, 287 Jefferson
Avenue, Detroit, Mich.

FOR Ice-Making & Refrigerating MACHINERY,

ADDRESS THE
Ring Refrigerating & Ice Machine Co.

OFFICE:
213 CHAMBER OF COMMERCE,
ST. LOUIS, MO.

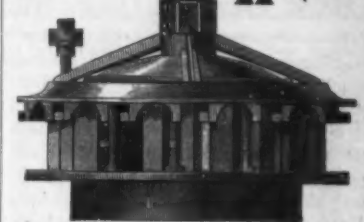
OILLESS BEARINGS.
They will run for years
without oil. Perfectly
clean. No cutting or
danger of fire from
overheating. Send for
New Circular of interest
to users of Loose
Pulleys.
North American Metaline Co., 37 Bleecker St., N.Y. City.

DON'T BUY AN ENGINE OR BOILER

Until you have seen our circulars. Engines complete
from 5 to 110 horse power, both Vertical and Horizontal,
at prices below those of other reputable makers.
1400 in use. Boilers of every style. Automatic
Engines for Electric Lights. Centrifugal
Pumping Machinery for Drainage or Irrigation.
Established 25 years. Perfect satisfaction guaranteed.
Ask for Circulars and address

Morris Machine Works
BALDWINVILLE, N. Y.

SUCCESS Water Wheel.



This Wheel is strong and durable. Excelled
all other wheels in the great trial tests. Is in use
all over the nation. I also make a specialty of

HEAVY GEARING & MACHINERY

For Paper, Cotton and Grist Mills.
S. MORGAN SMITH, York, Pa.

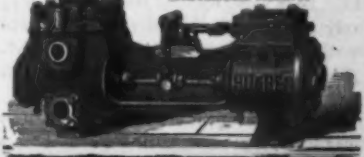
THE IMPROVED LANCASTER Turbine Wheel.



Lancaster Turbine Wheel Co. Lancaster, Pa.

HUGHES STEAM PUMP CO. CLEVELAND, O.

MANUFACTURERS OF
Single, Duplex and Compound Pumps
FOR ALL DUTIES.
WATER WORKS PUMPING ENGINEERS.
SEND FOR CATALOGUES AND PRICE LISTS.
Donagan & Self, New York Agents.
T. R. WINGROVE, 324 NORTH ST.
BALTIMORE AGENT.



PERFORATED METAL
FOR
COTTON SEED OIL MILLS
RICE MILLS
MINING SCREENS &
THE ROBERT AITCHISON
PERFORATED METAL CO.
16 Van Buren St. Chicago, Ill.

The Markets.

OFFICE MANUFACTURERS' RECORD,

BALTIMORE, November 27, 1889.

One of the features deserving of more than passing notice just at this time is the development of schemes of a municipal character contemplating the expenditure of very large sums of money. A scheme for expending \$60,000,000 in a sewerage system in Chicago, at the rate of \$7,000,000 per year, is one of these. New York has several very important schemes, the outlays of which, if carried out, will run into the hundreds of millions. One of the smaller schemes recently spoken of is the improvement of the water front of that city from the Battery to Harlem at a cost of \$20,000,000, in an annual outlay of \$3,000,000. Quite a number of schemes could be mentioned, such as elevated railroads in St. Louis, Chicago, Philadelphia, New York and other cities. Besides this, the smaller cities and towns all over the country are developing plans and devising systems for laying out money to make improvements of one sort or another. The purpose of a reference to this tendency is to call attention to the expanding requirements that are likely to show themselves next year and the year after. Even if railroad construction should not reach the 10,000 mile limit, other openings will present themselves for iron and steel products which will go far to compensate for a deficiency in railroad work. Among these sources are shop and boat building, car and bridge building, house and factory building and general construction work. The demand for iron and steel must increase, and if railroad building should be undertaken upon a large scale, as is not improbable, it is difficult to see how, even with the present extraordinary producing capacity, an advance in prices can be avoided.

It is questionable whether a moderate advance would be productive of the harm that is anticipated by so many. In former seasons of great activity advancing prices have gone to unusual limits; speculative schemes multiplied and speculative prices became universal. There is a wide difference between such a course and a moderate and legitimate advance, for the latter will encourage investments. Our advices from many manufacturing centers this week all point in the same direction. A legitimate and steady trade is maintained. While prices are very strong, the past six days have elapsed without an actual advance. Less than usual buying has been done. It is predicted in several quarters that a great deal of cutting will be done in December by way of securing material for the first quarter of the new year, in view of the possibility of an advance in prices after the holidays. The heavy production of crude and finished iron and steel is all taken up. The stocks of iron, steel, coal and lumber are quietly declining. Consumers of nearly all kinds of raw material have been using up what they had, but may very soon see it necessary to come into market. Brokers in New York, Philadelphia, Chicago and in the Ohio valley all think this will be the outcome.

In a general way, crude iron quotations may be given at Northern tidewater points at \$19, \$18 and \$17 respectively. Southern irons, as usual, are quoted a little less, but the difference is so small that very little is selling. Southern furnaces are sold up for the rest of the year, and contracts for the new year are taken with great caution. At Louisville prices show a tendency to advance. At Chattanooga a healthy trade is reported and cars are scarce. At St. Louis iron is quiet but firm. Consumers are very busy melting up more iron than for years. In Western Pennsylvania all the mills and furnaces are busy, and a feeling of confidence in prices is manifested. At Cleveland ore transactions

are still reported, and the figures for the year in lake ore shipments are likely to reach over 7,000,000 tons. Users of lake ores are anxious to fix on ore prices for the coming year, in order that they may make prices for their products. They are not able to do so.

The bar mills are everywhere busy, and, as usual, all new business is taken at outside asking prices. The great activity in nails continues in Eastern, Western and Southern markets, and consumers and retailers are endeavoring to stock up for the winter and early spring.

The sheet, plate and structural iron mills are all oversold, and high prices are quoted without exception.

The steel rail makers are booking orders for small lots at Eastern mills at \$35 and in Western mills at \$36 to \$37.

The bridge builders everywhere are making full or overtime, and the makers of wrought iron pipe are favored with all the business they can handle. Crucible and open-hearth steel, as well as Bessemer machinery steel, are selling at outside prices at all Western distributing points.

Steel slabs and billets are selling at \$35 to \$36, with extra prices for slabs for special purposes.

There is a great run for track supplies, as it is the intention of railway managers to do a great deal of tinkering this winter in sections where the climate allows.

The Southern iron interests are holding their own, and the high prices realized are stimulating the projection of new schemes involving the construction of furnaces and the erection of rolling mills.

HARDWARE.

The only change in price of any importance is on copper rivets and burrs, which have advanced to 60 per cent. discount net, f. o. b. factory. The demand for goods is very light, but not more so than usual at this season of the year. During the next month a gradual stiffening in price on shelf hardware may be expected. Some of the large jobbers have bought very freely during the past ninety days and availed themselves, as far as possible, of the low prices ruling. Scythes will be higher the coming season and prices will be advanced about 10 per cent. Nicholson File Co. have advanced their prices about 10 per cent., to take effect at once. Nuts and washers have advanced about 1-10c. per pound.

DIXON'S Silica Graphite Paint.

DURABLE AND BEAUTIFUL.
Unaffected by heat or cold, dampness, salt air, rust, or even acids. For smoke stacks, boiler fronts, tin roofs, or metal work, this Paint is far superior to anything made. For details send for circulars.

Joseph Dixon Crucible Co., Jersey City, N. J.

U. S. STANDARD SCALES.

SENT ON TRIAL, FREIGHT PAID.
5-Ton Wagon Scales \$50.00.

GUARANTEED CORRECT. OTHER SIZES IN PROPORTION.

Portable, Dormant, Warehouse, R. R. Depot, Track Scales, etc.

Hubbard & Co., General Agents, 86 NASSAU ST. N. Y.

MEMPHIS, TENN.

MASON REGULATOR CO.
SEND FOR PAMPHLET
GIVING
PRICES AND CUTS.
BOSTON MASS.

Philadelphia × Warehouse × Company,

No. 235 Dock Street, Philadelphia.

CAPITAL, \$1,000,000, FULL PAID.

This Company makes advances upon Pig Iron stored at Furnaces (storage charge being nominal) or in Public Warehouses, upon reasonable terms Particulars upon Application.

F. M. POTTS, Sec. and Treas. R. H. PILE, Superintendent. BEAUVEAU BORIE, Vice-President. HARRY F. WEST, President.



The "Original Gandy"

Sewed Cotton Duck Belting.

Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and for all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.

For further information, prices, etc., write

The Gandy Belting Co.

BALTIMORE, MD.

SOUTHERN AGENTS: Smith & Courtney, Richmond, Va. Atlanta Rubber Co., Atlanta, Ga. Baker, Sloo & Co., New Orleans, La.

THE BEST & CHEAPEST
BELTING
IN THE WORLD
STITCHED CANVAS BELTING
THE CHESAPEAKE BELTING CO.
BALTIMORE, MD.

PAGE BELTING COMPANY,



SECTION OF COPPER WIRE-SEWED LIGHT DOUBLE BELTING.

We Manufacture all the standard of Leather Belting.

Also the "HERCULES" Lacing. The Hercules is lacing; combines Raw Hide and of

Send for Catalogue of Grades of Belting to use

CONCORD, N. H., U. S. A. BRANCHES—Boston, New York, Chicago, St. Louis and San Francisco.



SHULTZ BELTING CO.
MANUFACTURERS OF
IT BELTS THE EARTH AND MAKES THE MOON SPIN LIKE A TOP.
OUR BELTING IS TANNED ON THE SURFACES ONLY. INTERIOR IS RAWHIDE. The only Perfect Belt made in America. No slipping or last motion.
SEND FOR OUR VALUABLE BOOK. FREE.
ST. LOUIS, MO.
—AGENTS IN ALL CITIES—

S. OBERMAYER FOUNDRY SUPPLY MFG. CO.

Foundry Facings.

Importers and Refiners of
GRAPHITE

Or Black Lead

AND

Lubricating Plumbago.

NO CHARGE FOR TRIAL SAMPLES.



Foundry Supplies.

SHIPPERS OF ALL KINDS OF

Molding Sands

Monk's Molders' Tools.

CINCINNATI, OHIO, U. S. A.

Write for Catalogue and Price List.

The Sturtevant Steam Hot Blast Apparatus

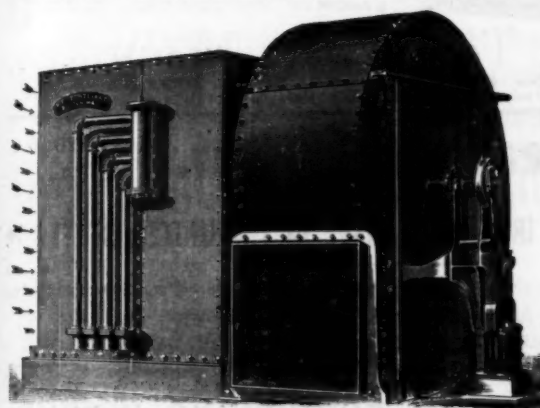
=FOR=

Heating AND Ventilating

Public and Office Buildings, Stores and Manufacturing Establishments of all classes, and for drying Wood, Wool, Cotton, Tobacco, Glue, Grain, &c. Send for illustrated treatise on Ventilation and Heating.

B. F. STURTEVANT,

BOSTON. MASS.

Salesroom, 34 Oliver St., Cor. Franklin, Boston.
Branches—91 Liberty Street, New York; 31 N. Canal Street, Chicago.

Keep Your Belts from Slipping

AND SAVE YOUR POWER BY USING

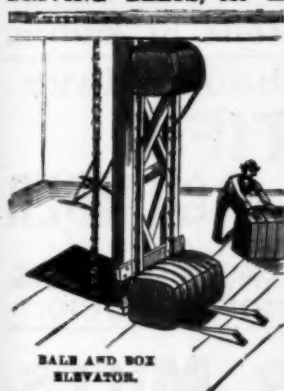
FRICTION COVERING FOR PULLEYS.

Satisfaction Guaranteed. Easily Applied. No Rivets. Effective. Agents Wanted.

NATIONAL PULLEY COVERING CO., BALTIMORE, MD.

The Jeffrey Mfg. Co.

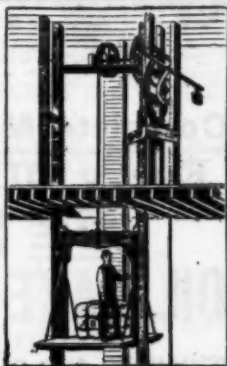
121 West State St., Columbus, O.

MANUFACTURERS OF
ELEVATORS, CONVEYERS,
DRIVING BELTS, for HandlingBALE AND BOX
ELEVATOR.

Bates' Hand Elevators

Pat. April 18, 1871. Reissued July 25, 1876.

OVER 6,000 IN USE.



Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

JAMES BATES,

PATENTEE,

Nos. 1, 3 & 5 President Street, BALTIMORE.

The WELLINGTON BELT HOLDER

LATELY

IMPROVED.

Just the thing to shift large belts driving Dynamos, Blowers, Gears, Saws, &c. Belt stops and slackens when machine stops. Thousands in use, cost very low. Sent on trial. Permit us to quote your prices.

W. R. SANTLEY & CO. Wellington, Ohio

JAS. P. WITHEROW.

ENGINEER & CONTRACTOR,

Furnace & Steel

Plant Construction.

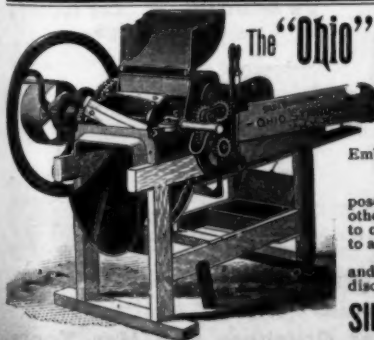
PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

* HEINE *
Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

ELY & DEMING,

23 S. Charles Street,
BaltimoreDIRECT REPRESENTATIVES for Iron and Steel Forgings, Turnbuckles, &c.
Bar, Band, Hoop, Angle, Plate and Sheet-Iron and Steel.
BOILER PLATE, TUBES AND RIVETS. TWIST DRILLS. JACK SCREWS.

The "Ohio" Ensilage and Feed Cutters,

10 DIFFERENT SIZES.

The Largest and Most Complete Line of Cutters on the Market.

Embracing machines for both hand and power use.

OUR IMPROVED CUTTERS

possess many new and valuable features not found in other machines. They are simple, substantial, easy to operate, have greater capacity and are less liable to accident than other cutters.

Illustrated catalogue, with treatise on ensilage and plan of silo mailed on application. Liberal discounts to dealers.

SILVER & DEMING MFG. CO. Salem, O.

MINING ENGINEERS ELECTRO
BUILDING CIVIL PATENT MASSAY
NAVAL CALCULATOR ARCHITECTS
HYDRAULIC SANITARY
R. C. SMITH No. 1 BROADWAY, N. Y.

J. H. PRATT.

Analytical Chemist,

Laboratory 1826 Third Ave., Birmingham, Ala.

Analyses of Ores, Slags and Coals carefully made. Reports on properties, etc.

EDWARD ALLEN,
Practical Lead Burner,

BALTIMORE, MD.

Sulphuric Acid Chambers constructed on the latest improved plan. Strict attention given to the Lead Work of Concentrating Apparatus. P. O. BOX 325. ESTIMATES FOR THE ABOVE GIVEN.

WIRE RAILING

and Ornamental Wire Works.

DUPUR & CO. 113 & 115 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieve, Fenders, Cages, Lead and Coal Screens, Iron Bed ends, Chairs, &c.

Office and Warerooms, - 9 N. Liberty Street,
BALTIMORE, MD.VAILE & YOUNG'S
Patent Metallic Skylights.

Without Putty Construction adapted to all forms and styles of Skylights. Thousands of feet in use have proved its superiority. Particularly adapted for Depots, Mills, Factories, etc., where large and continuous lights are required. Send for illustrated catalogue.

309 & 311 NORTH STREET, BALTIMORE, MD.

METAL
SKYLIGHTS

Made of galvanized iron and copper. Absolutely no leakage from any source; no dripping or sweating; fire-proof; ventilating. Galvanized iron and copper cornice and gutters. Sheet metal work for buildings. Send for illustrated circular.

E. VAN NOORDEN & CO.,
383 Harrison Ave. BOSTON, Mass.

RICHMOND IRON PAINT CO.

WEATHERPROOF, WATERPROOF AND FIREPROOF.

Never Cracks, Blisters or Peels. Especially adapted for Tin, Zinc, Copper, Iron, Shingles and Board Roofs.



DAMP AND IMPERFECT WALLS ARE ALSO RE-ORDERED DRY BY THE USE OF THIS PAINT AND GEMMY.

Agents wanted for the State of Maryland and all unclaimed territory in the South.

N. T. PATE & CO., 1007 E. City St. Richmond, Va.

Gen. Agency "Volcan Fire-Proof and Solitaria" Paints.

Steam
Engines,
Shafting,
Hangers,
Pulleys, etc.

CANNING MACHINERY,

The Warfield Manufacturing Co.

336, 338, 340, 342 NORTH ST. - - BALTIMORE, MD.

Warfield's
Green Corn
Cutter.

E. W. BLISS CO.

Plymouth, Pearl, John and Adams Sts.

OFFICE: 17 Adams Street.

BROOKLYN, N. Y.

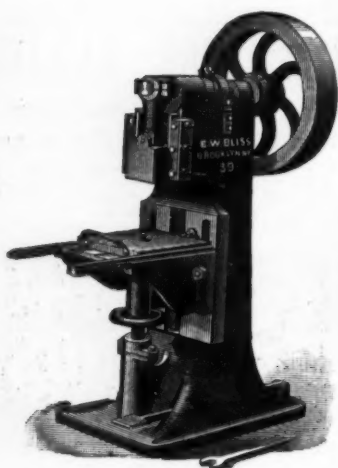
Presses, DIES


AND

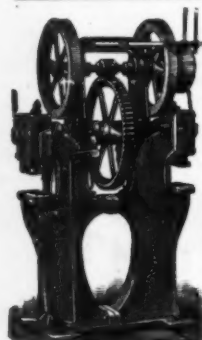
Special Machinery,

FOR

Sheet Metal Workers.



Cam and Toggle Drawing Presses, Power Presses, Foot Presses, Automatic Drop Presses for Forging and Stamping, Double Seaming Machines for round, square and oval work, Circular Shears, hand and power; Squaring Shears, foot and power; Canning Machinery, Dies of every description, Tools for working Sheet Metals, Petroleum Can Machinery, Special Machinery.  Send for Circulars.



Small Double Machine.

THE
Long & Allstatter Co.
HAMILTON, OHIO.

Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN

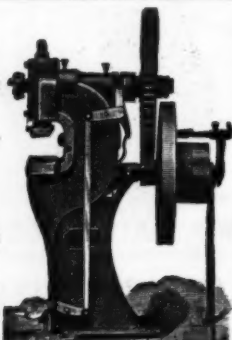
Punches and Shears,

Over 300 Sizes.

ALSO
POWER CUSHIONED

HAMMER.

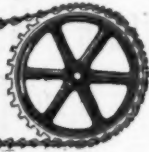
Send for New Catalogues.



Small Single Machine.



TRANSMISSION
OF POWER.



Machinery for Handling any Material in Bulk or in Packages.

The Link-Belt Engineering Company,

NEW YORK 49 Dey Street.

Nicetown, PHILADELPHIA, PA.

Successors to BURR & DODGE, PHILADELPHIA,

AND

EASTERN BRANCH LINK-BELT MACHINERY CO.

New York.

EWART DETACHABLE LINK-BELTING,

DODGE CABLE CHAIN

ELEVATORS, CONVEYORS, LINK DRIVING BELTS.

NIAGARA STAMPING & TOOL CO.

MANUFACTURERS OF



For Working Sheet Metal.
Presses, Dies and Tools,
Cannery, Outfit, Squaring Shears, &c.

TINNERS' TOOLS AND MACHINES,

Office and Works, Cor. Randall & Superior Streets, BUFFALO, N. Y.

Write for our catalogue and price-list and mention this paper.

Chattanooga Paint Company, CHATTANOOGA, TENN.

Manufacturers of the

"BEST OXIDE OF IRON PAINT MADE IN THE UNITED STATES."

Over 18,000 tons made since 1880. 3,000 tons made in 1888. Over 500 certificates regarding its qualities. Either dry or mixed ready for use.

SEND FOR PRICES DELIVERED AT POINT OF DESTINATION

— ESTABLISHED 1847. —

BALTIMORE MILL FURNISHING WORKS.

B. F. STARR & CO. BALTIMORE, MD.

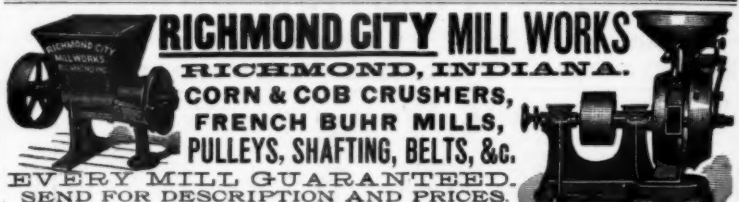
MANUFACTURERS OF

BURR STONES FOR ALL PURPOSES.

Portable Mills, Roller Mills, Smut Machines, Shafting, Pulleys, Gearing and General Mill Machinery.

Importers of Bolting Cloths and General Mill Furnishings.

The Leading Mill Furnishing House on the Atlantic Seaboard.



RICHMOND CITY MILL WORKS

RICHMOND, INDIANA.

CORN & COB CRUSHERS,

FRENCH BURR MILLS,

PULLEYS, SHAFTING, BELTS, &c.

EVERY MILL GUARANTEED.
SEND FOR DESCRIPTION AND PRICES.

Complete Mill Outfits, Rolls or Buhrs.

Every OIL MILL Should Have

THE SCIENTIFIC OIL CAKE CRUSHER AND GRINDER

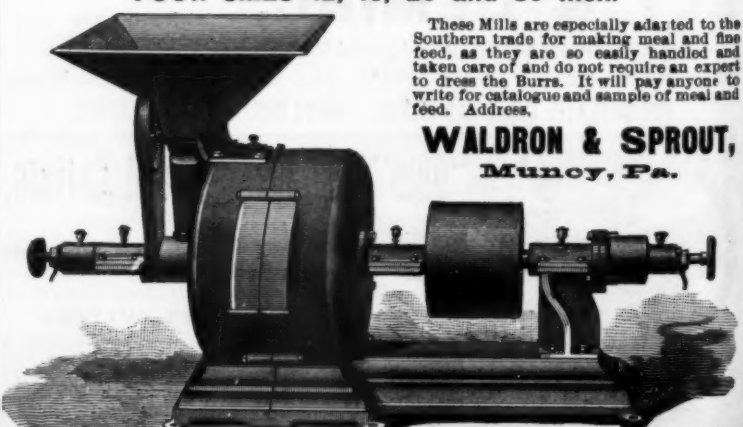
SEND FOR CATALOGUE OF THESE AND
CRUSHERS AND GRINDERS FOR ALL KINDS OF FERTILIZERS.
THE FOOS MFG. CO., SPRINGFIELD, OHIO.

FRENCH BURR MILLS,

FOUR SIZES—12, 16, 20 and 30 Inch.

These Mills are especially adapted to the Southern trade for making meal and fine feed, as they are so easily handled and taken care of and do not require an expert to dress the Burrs. It will pay anyone to write for catalogue and sample of meal and feed. Address,

WALDRON & SPROUT,
Muncy, Pa.



MANUFACTURERS OF

French Burr Mills, Corn Ear Crushers and Hay Tools.



Southern Electrical Supply Co.

HEADQUARTERS FOR

Electrical Goods of all Kinds, from a Wire Staple to a Dynamo.

Okonite Wire Cables and Tubing. Candee Weather-Proof Line Wire. Okonite and Manson Tapes.

Write for Catalogues.

310 N. Third Street, St. Louis, Mo.

The Wenstrom Dynamo.

INCANDESCENT AND ARC LIGHTING.

For Residences, Factories and Central Stations. Absolutely Safe. No Danger to Life or Property. Simple, Compact and Durable.

We guarantee that it will give 25 per cent. more light per horse-power, whilst the speed required is only about one-half of that of any other system. It is economical in price and is the only Dynamo manufactured in the South. We also manufacture

MOTORS from 5 to 50 Horse-Power,

and our Dynamos and Motors require no experienced labor to operate. All parties contemplating putting in Electric Plants would do well to correspond with us.

AGENTS WANTED FOR UNOCCUPIED TERRITORY.

The Wenstrom Southern Electric Mfg. Co.

OFFICE 6 SOUTH STREET,

FACTORY LOCUST POINT,

BALTIMORE, MD.



IRRIGATION NEW ERA GRADER AND DITCHER

Will elevate and place in embankment 1000 Cubic Yards of earth in 10 hours, at a cost not exceeding TWO CENTS per cubic yard. Hundreds now in use. Write for circulars.

F. C. AUSTIN MFG. CO.,
Carpenter St. and Carroll Ave., CHICAGO, ILL.We are the largest manufacturers of
Artesian Well Machinery
in the world.

THE KING OF STRAIGHT LINE ENGINES

5 to 75 Horse-Power.

Perfect Automatic Cut-Off

WHEEL GOVERNOR.

Call for Catalogue E.

Racine Hardware Mfg. Co.

RACINE, WIS.

Advertise in the MANUFACTURERS' RECORD.

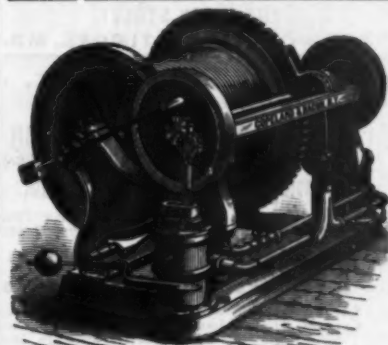
LUDLOW VALVE MFG. CO.

Office and Works: 938 to 954 River St., and 67 to 83 Yall Ave., Troy, N. Y.

VALVES

Double and Single Gate, 1/4 inch to 48 inch; outside and inside Scurves, Indicators, etc., for Gas, Water, Steam, Oil.
SEND FOR CIRCULAR.

Also Fire Hydrants. Yard and Wash Hydrants, Check and Foot Valves.



BACON

WINDING ENGINES,
FURNACE HOISTS,
MINE HOISTS.

(With or Without Boilers.)

"MINING PLANTS," Concentrating Works and Dredging Machinery
Furnished Complete.

COPELAND & BACON

85 Liberty Street, New York.

535 Arch Street, PHILADELPHIA.

REFERENCES:—Croton Magnetic Iron Mines, Brewster's, N. Y. Crown Point Iron Co., Crown Point, N. Y. Belvidere Iron Co., 53 Broadway, New York. Sea Island Chemical Co., Beaufort, S. C.

Nelsonville Foundry & Machine Company

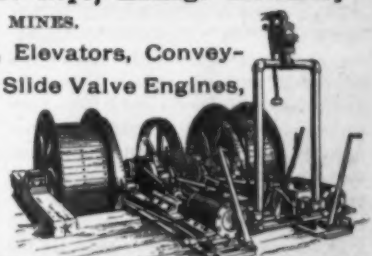
MANUFACTURERS OF

Endless and Tail Rope, Wire Rope, Haulage Machinery

FOR COAL MINES.

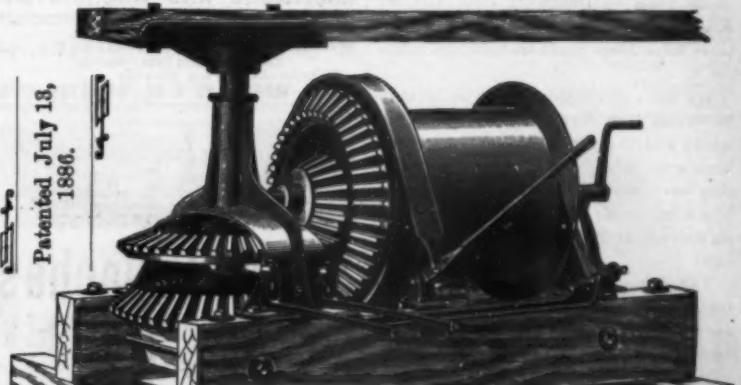
Friction Hoists, Chain Belting, Elevators, Conveyors, Coal Crushers, Automatic Slide Valve Engines, Duplex Pumps, Sheaves, Screens, Mine Cars and Mine EQUIPMENTS GENERALLY.

NELSONVILLE, OHIO.



THE CONTRACTORS' PLANT MANFG. CO.

129 ERIE STREET, BUFFALO N. Y. U. S. A.



AN IMPROVED HORSE POWER HOISTING MACHINE, with a combination of fast and slow speed. With fast speed a horse will lift 1,000 to 1,500 lbs. on a single line at a speed of 60 feet per minute, and with a single block 3,000 lbs. 40 feet per minute. With the slow speed a weight of 1 1/2 tons with a single line, and with a single block 3 tons; with two single blocks 5 tons; with double and single blocks 7 tons. The speed single line 30 feet per minute, with single block 15 feet per minute.

In this combination of gears the user has the advantage of two machines embraced in one, with a saving of 25 per cent. in cost and 60 per cent. in weight.

SIMPLE, DOES NOT GET OUT OF ORDER.

WRITE FOR ILLUSTRATED CATALOGUE OF

HORSE POWER HOISTING MACHINERY

For Bridge Builders, Contractors, Quarrymen, Mineral and Coal Miners, Masons and Builders.

BERRICKS AND CONTRACTORS' SUPPLIES. Mention this paper when you write.

Eastern Lumber Markets.

[Spec. correspondence MANUFACTURERS' RECORD.]

NEW YORK, November 26, 1889.

Inquiries are out to-day from a few large builders and buyers of lumber for lumber supplies for a few big enterprises that will call for more or less lumber this winter and early in the spring. The various railroads centering here all have schemes of greater or less magnitude, involving the construction of docks, wharves and terminal facilities, in which timber and lumber will play a very important part. The civil and mechanical engineers are still wrestling with the problem of better transit facilities, and they are no nearer to a solution than a year or two ago. The dock department is engaged in a scheme for the reorganization of the water front from the Battery to Harlem, which will make business lively for a few lumber firms. Of course this is a matter that it will take years to finish, but it will place New York in an excellent position as a shipping port. The Pennsylvania Co. has had a scheme on hand for a year or two involving a great outlay in New York harbor and the reclamation of a large area now under water. The Reading Co. has a similar scheme or two besides the one contemplating the establishment of a ship line from Montauk Point to Milford Haven. These instances are given to show that, in addition to the large demand for lumber for house-building purposes, there will be very soon other large demands for other purposes. The World's Fair scheme will help our lumber trade a great deal, and our millionaires are being prodded by the public press to turn their small-change pockets inside out to complete the fund of \$5,000,000 before we can expect any favorable action from Congress for New York as the site. The Chicago people are booming and blustering ahead, but we are going to have the fair. There are also several other rather gigantic schemes in contemplation which will come along next year, and which will eat up an enormous amount of lumber. The fact is that, so far as signs go, we are going to have a good lumber year in 1890.

The question of prices might as well be dismissed at once. Prices are not fluctuating; they seem to have settled down into a rut, both in wholesale and retail channels. The pressure all summer and fall has been very strong, and under it every element of resistance has been brought into play on the part of lumber and lumber dealers to prevent a depression to actual cost.

The white pine men along the lakes and at Albany have had a busy time for the past month. The canals will soon close. The New York State canals will do nothing after the 30th inst. The Morris canal shuts down on December 10th, and the Schuylkill canal on the 9th. Full calculations have been made and we are ready for it.

We have been shipping a little more hardwood into New England yards this week, and the lucky shippers say it has been only through a cutting of prices that they have succeeded. It is difficult to see how a legitimate business can be done in hardwoods at anything less than quoted rates.

The financial condition of the lumber trade here is sound so far as known. There are no rumors or quiet intimations of weakness thrown out.

We have received a larger supply of yellow pine this November than last, and every stick and foot of it has gone practically into consumption. The yard supplies are virtually sold. This means, of course, that there will be a few additional hurried shipments. The course business is taking in the Southern lumber centers leads us to believe that we might as well do our contracting now as at any time later on. That is to say, prices are at rock bottom.

Cherry, poplar, ash and other Western or Southern woods are arriving here by car in about the usual fashion, and prices are all strong. If any exception could be made it would be in poplar. The New England spruce men are tying up for the winter.

A Profitable Business FOR SALE.

Planing Mill IN CHATTANOOGA, TENN.

consisting of mill, dry-house, and complete outfit of machinery for the manufacture of doors, sash, blinds and all kinds of planing mill work, now in successful operation and running full time. Owner has grown rich and wishes to retire. Will sell mill, machinery, stock in trade and good will on easy terms, and lease real estate and use of side track for a term of years. This is a good opportunity for an energetic man to step into a good ready-made business.

ADDRESS

R., P. O. Box 573, Chattanooga, Tenn.

W. EDWIN PEREGOY & CO.

WHOLESALE AND COMMISSION

LUMBER, LOGS AND STAVES,

113 S. GAY STREET,

P. O. Box 433, BALTIMORE, MD.

A. C. DANNER, Mobile, Ala.

Yellow Pine Flooring and Ceiling, Stopping, Finishing, Docking, Car Sills, And all kinds of Rough or Dressed Yellow Pine.

TIMBER LANDS.

Large and small tracts Yellow Pine, White Oak, Cypress Timber Lands; all Southern States. Timber estimated and reported upon in any Southern State.

W. H. HOWCOTT, New Orleans, La.

E. B. HUNTING & CO.

BALTIMORE, MD.

JACKSONVILLE AND FERNANDINA, FLA. AND SAVANNAH, GA.

WHOLESALE MERCHANTS AND MANUFACTURERS OF

Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

THOMAS J. SHRYOCK & CO.

YELLOW PINE COMMISSION MERCHANTS.

Correspondence Solicited.

BALTIMORE AND WASHINGTON.

FOR SALE. WOOD-WORKING MACHINERY, full line, with latest improvements. Write for circulars and price-list. BENTEL, MARQUANT & CO., HAMILTON, OHIO.



Steam Launches STEAM YACHTS, TUG BOATS,

Marine Engines and Boilers, Propeller Wheels and Boat Machinery.

Send for free Illustrated Catalogue.

CHAS. P. WILLARD & CO., 236 Randolph St., Chicago, Ill.



JOHNSON, SHRYOCK & CO. HARDWOOD COMMISSION MERCHANTS. Correspondence Solicited. Office, - Shryock Building, BALTIMORE.

J. H. WILEY GADSDEN, ALABAMA.

LARGE BODIES OF

Iron, Coal and Timber Lands FOR SALE.

Correspondence Solicited.

Phoenix Incandescent Lamp Co. CHICAGO, ILL.

The Highest Quality.

The Lowest Price.

Can be used for any Electric Light System.

SATISFACTION GUARANTEED.

Series Lamps.

BATTERY & LAMPS.

Write for Circular and Price List before buying elsewhere.

MINOR SCOVEL, Pres.

H. S. JACKSON, Vice-Pres.

W. L. CHERRY, Sec. and Treas.

The Scovel & Irwin Construction Co. OF BIRMINGHAM, ALA.

Address all correspondence to the Branch Office,

Cole Building, NASHVILLE, TENN.

General Engineers and Contractors

For the Design and Construction of

Water Works, Sewerage Systems, Railroads,

BONDS, STOCKS, MORTGAGES, AND OTHER SECURITIES NEGOTIATED.

Suburban Roads, Blast Furnaces, Fuel Gas Plants.

JOYCE, CRIDLAND & CO. DAYTON, O.

MANUFACTURERS OF

J. O. Joyce's Patent Lever Jacks, COMPOUND LEVER AND SCREW JACKS, And Bench Vises.

50 varieties of Lever and Screw Jacks for railroad use. Please send for illustrated catalogue.

THE Mineral & Timber Land Co. OF THE SOUTH. Capital - \$100,000.

Ex-Gov. John C. Brown, President
Jere Baxter, Vice-Pres't and Gen'l Man'r
J. H. Moore, Vice President
T. F. P. Allison, Vice President
Lewis T. Baxter, Secretary and Treasurer

Mineral and Timber Lands in the Southern States Bought and Sold on Commission.

Agencies in New York, Chicago, Boston and London.

We call the attention of owners of large tracts of land to the unusual advantages offered by this Company. Address

LEWIS T. BAXTER, Secretary and Treasurer. Nashville, Tenn.

References: The bankers and business men of Nashville, Tenn.



BEACH'S NEW Scroll Sawing MACHINE.

3,000 in use; made in four styles; prices to suit everybody; even strain; no jar; air pump, and every known improvement. You can stop, change the saw and start in four seconds. Both tilting and stationary table. Mention this paper and send for catalogue and prices. You can't afford to buy any other. Address, H. L. BEACH, Smith Street, Montross, Susquehanna Co., - Penna.



\$80 will buy the best BAND SAW in the world. \$185 will buy our new PATENT BAND RESAWING MACHINE. \$100 will buy the BEST AUTOMATIC RIP

SAWING MACHINE, weatherboarding attachments included, and one SAW. \$500 will buy the best 7-foot LOG MILL in the world.

For further particulars address

STANDARD MFG. CO.

110 to 130 Main Street, Edinburg, Ind.

FOR THE BEST AND LOWEST PRICED GANG LATH MILL AND BOLTER COMBINED ADDRESS D. S. ABBOTT, OLEAN-N.Y.

IRON & STEEL ROOFING

CORRUGATED & CRIMPED SIDING, CEILING ETC. MANUFACTURED BY W. G. HYNDMAN & CO. CINCINNATI, OHIO



Covert Web Goods, Rope Goods, Snap and Chain Goods

bear the above TRADE MARK, and are sold by all LEADING JOBBERS at Manufacturers' prices.

Covert Manufacturing Co. West Troy, N.Y.



FRED. J. MEYERS MFG. CO.

COVINGTON, KY., Manufacturers of
WIRE GOODS OF ALL KINDS,
Wrought-iron Fencing, Cresting and Hardware Specialties.
Send for Illustrated Catalogue and Price List.



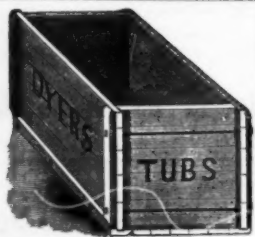
Amos H. Hall,

CEDAR

Tub and Tank Factory

N. Second St., above Cambria.
PHILADELPHIA, PENNA.

TANKS for Brewers, Dyers, Paper Mills, Factories, Cotton and Woolen Mills.



Waltham Emery Wheel Co., Manufacturers,
WALTHAM, MASS.

By our various processes we can guarantee satisfaction for the greatest variety of work.

EMERY WHEEL MACHINERY,
EMERY, CORUNDUM, Etc.

These wheels can be bought of our agents or ordered direct.

IRA DIMOCK, Pres. Established 1867. J. L. OTIS, Treas.
Northampton Emery Wheel Co.

MANUFACTURERS OF

Premium Solid Emery

AND
CORUNDUM WHEELS,

AND ALL KINDS OF

Emery Wheel Machinery.

LEEDS, MASS.

WESTERN BRANCH:

20 SOUTH CANAL STREET, CHICAGO, ILL.

NORTON EMERY WHEEL CO.

MANUFACTURERS OF—

Complete Illustrated Catalogue mailed free upon application.

EMERY and

Corundum Wheels,

Emery Wheel Machinery

AND NUMEROUS SPECIALTIES.

THOS. K. CAREY & BROS.

26 Light Street, Baltimore.

Southern Agents

THE PERFECTION

Meat Cutter

THE LATEST, BEST AND MOST IMPROVED FOR FAMILY USE.

No. 1	No. 2	No. 3
\$1.50	\$2.00	\$3.00

DISCOUNTS and Descriptive Catalogues on application to manufacturers.

AMERICAN MACHINE CO.
Manufacturers of Hardware Specialties,
N. E. COR. LEHIGH AVENUE AND AMERICAN ST.,
PHILADELPHIA, PA., U. S. A.

UDELL TOWEL ARM

LATEST AND BEST IN THE MARKET.

Walnut and Antique Oak Finish.

TOWEL ROLLERS IN GREAT VARIETY.

We also manufacture a full

line of ROPE REELS,

CLOTHES BARS,

HAT HOOKS,

EXTENSION BROOM HANDLES AND CLOTHES POLES, and a large variety of goods for the HARDWARE AND WOODENWARE TRADES. Write for catalogue and prices.

Udell Woodenware Works, Indianapolis, Ind.

And 79 Reade Street, New York City.

Laundry Machinery.

LARGEST STOCK.

LATEST IMPROVEMENTS.

FULLEST LINE.

Washing Machines,
Ironing Machines,
Centrifugal Machines,
Mangles, Wringers, &c.
BOILERS AND ENGINES.

—OUTFITS FOR—
Hotels and Public Institutions.

A SPECIALTY.

THE A. M. DOLPH CO.

222 WASHINGTON STREET,
CHICAGO, ILL.

40 CORTLANDT STREET,
NEW YORK.

COR. 9TH ST. & FREEMAN AVE.
CINCINNATI, O.

WIER & WILSON,

DIRECT REPRESENTATIVES:

HUBBARD & Co., Axes, Shovels, Hoes and Saws.
AMERICAN SCREW COMPANY, Screws, Bolts, Wire Nails, &c.
A. FIELD & SONS, Tacks and Nails.
WHEELING HINGE COMPANY, Wrought Goods, Butts, &c.
L. D. FROST & SONS, Philadelphia Carriage Bolts.
JOHN SOMMERS' SON, Faucets.
NICHOLSON FILE CO., Files.
HARTFORD HAMMER CO., Hammers and Sledges.
THE HENRY C. HART MFG. CO., Screen Frames, Spring Hinges, &c.
SHEBLE & KLEMM, Forks.
HOLROYD & Co., Stocks and Dies.
CLARK BROS. & Co., Bolts, Nuts, etc.

BRANFORD LOCK WORKS.
WHITE MOUNTAIN FREEZER CO.
BLAIR MFG. CO., New, Easy and Bay State Lawn Mowers.
WINCHESTER HANDLE CO., Fork, Shovel, Hoe Handles.
SAMSON CORDAGE WORKS, Braided Sash Cord, etc.
OLD DOMINION IRON & NAIL WORKS CO.
Walker's Horse and Mule Shoes.
PLUME & ATWOOD MFG. CO., Copper Rivets, Jack Chains, Lamps, etc.
JOHN C. SCHMIDT & Co., Trace & Coil Chain.
EXCELSIOR HOOK & BACK BAND CO.
NEW SCOTT MFG. CO., Fruit Parers, etc.
KLINE, LOGAN & Co., Picks, Mattocks, etc.
RIVER FOUNDRY CO., Lull & Porter Hinges, Pulleys, etc.

OFFICE—No. 14 W. German St., BALTIMORE, MD.



PLEASE MAKE A NOTE OF IT.

The celebrated Patent Edge Corrugated Iron Roofing, sheets having such great lineal rigidity, and side joints unapproached for tightness, is manufactured only by

The Cincinnati Corrugating Co.

PIQUA, OHIO.

Information promptly furnished.

HOLTON IRON ROOFING
ROOFING SIDING
CEILING & C.
NEW LISBON, O.
AGENTS WANTED EVERYWHERE

THE CANTON STEEL ROOFING CO., Canton, Ohio.

Folded Lock Seam, Genuine

Steel Roofing

FIRE-PROOF SHUTTERS.

10 Foot Seamless Eave Trough.

Send for catalogue, price-list and samples.



Corrugated Iron,

Crimped Edge Iron Roofing and Siding, Beaded Iron Siding and Ceiling, Water-Proof Sheathing Paper, Roof Paint, &c.

IRON & STEEL ROOFING
"GLOBE STANDING SEAM"
"EXCELSIOR V CRIMPED"
"READY ROLLED CAPPED"
GLOBE IRON ROOFING & CORRUGATING CO., CINCINNATI, OHIO

The Kanneberg Roofing Co., Canton, O.

(The Originators of Strictly Genuine Steel Roofing.), MANUFACTURERS OF

The KANNEBERG PATENT,

Latest Improved

Folded Lock Seam,

Strictly Genuine Steel Roofing

Write for Catalogue, Price List and Samples.



CORRUGATED IRON,

(FOUR SIZES OF CORRUGATIONS.)

Crimped Edge Iron Roofing and Siding, Beaded Iron Siding and Ceiling, Water-Proof Sheathing Paper, Ready Mixed Paints, Etc.

CAMBRIDGE ROOFING COMPANY, Cambridge, Ohio.

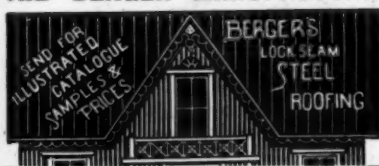


MANUFACTURERS OF
Plain Rolled, Crimped Edge, Corrugated and Beaded Roofing, Siding and Ceiling.

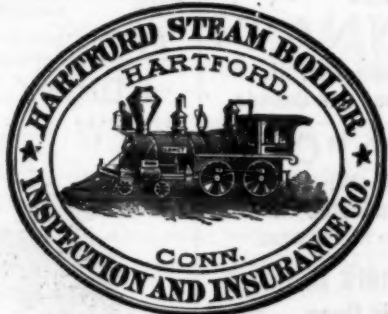
Pure Steel a Specialty.

Send for Descriptive Catalogue.

THE BERGER MANUFACTURING COMPANY, CANTON, O.



DON'T make arrangements for ROOFING 'till you have seen ours.
It Excels all other Metal Roofs.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

J. M. ALLEN, President.

J. B. PIERCE, Secretary.

BOARD OF DIRECTORS:

J. M. ALLEN, President.
FRANK W. CHENEY, Treas. Cheney Bros. Silk Mfg. Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Co.
RICHARD W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Pres. of the United States Bank.
LEVERETT BRAINARD, of The Case, Lockwood & Brainard Co.
GEO. W. B. FRANKLIN, late Vice-Prest. Colt's Patent Fire Arms Mfg. Co.
NEWTON CASE, of The Case, Lockwood & Brainard Co.
Maryland Department—LAWFORD & McKIM, Gen. Agents 22 S. Holiday St., Baltimore.

NELSON HOLLISTER, of State Bank, Hartford.
HON. HENRY C. BOHRMAN, Attorney-at-Law, Hartford.
HON. FRANCIS B. COOLEY, of the Nat. Exchange Bank, Hartford, Conn.
A. W. JILLSON, late Vice-Prest. Phoenix Fire Insurance Co., Hartford, Conn.
EDMUND A. STEDMAN, Treas. of the Fidelity Co., Hartford, Conn.
CLAPP SPOONER, Bridgeport, Conn.
GEORGE BURNHAM, Baldwin Locomotive Works, Phila.
HON. NATHANIEL SHIPMAN, Judge U. S. Circuit Court.

FIRE-PROOF WATER-PROOF WIND-PROOF GUTTA PERCHA ROOFING!

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roofs, Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

Empire Paint & Roofing Co., 1128 & 1130 Race St., Philadelphia, Pa.

LOWE & TUCKER, Chattanooga, Tenn.

— DEALERS IN —

Pig Iron, Iron Roofing,

RAILROAD AND FURNACE SUPPLIES.

DRUID FABRIC ROOFING

The Cheapest, Most Durable and Desirable Roofing Material on the Market.

It is Water-Proof, Weather-Proof, Acid-Proof and practically Fire-Proof. Is endorsed by the New England Mutual Fire Insurance Co. This roofing is specially recommended to owners of city and country property; it can be applied without the aid of skilled labor. Everyone can be his own roofer at very small cost. We put on this roofing when it is desired.

Druid Elastic Paint

Is the most Elastic, Durable and Economical Paint known for Tin Roofs, Smoke Stacks, Boilers, Boiler Fronts, Bridges and all metal and wood surfaces. It is fire-proof, water-proof and acid-proof; it resists all rust as well as acid and smoke fumes; it will not peel, crack or blister. Especially adapted for making walls and northeast exposures water-proof. Blocks painted with two coats of this compound will resist a water pressure of 200 pounds to the square inch. The same applies to cement and mortar work. Send for prices and further information.

DRUID FELT CO.

7 S. GAY STREET, BALTIMORE, MD.

MANUFACTURERS.

BUNDY RADIATORS



Consist of LOOPS, a BASE and a Top in the simplest form possible in any Radiator.

— 13,000,000 —

SQUARE FEET NOW IN USE,

which are heating 10,000 of the largest and finest buildings in the country, which should prove beyond a doubt that the BUNDY RADIATOR is the best made.

MANUFACTURED BY

A. A. GRIFFING IRON CO.

662 Communipaw Avenue, Jersey City, N. J.

Send for our Catalogue.

Haines, Jones & Cadbury Co.

PLUMBERS' SUPPLIES,

Wrought Iron Pipe, Steam Valves and Cocks,

1186 Ridge Ave., Philadelphia, Pa.

MILNER & KETTIG,



BIRMINGHAM, ALA.

WRITE FOR CATALOGUES AND PRICES.

Prices guaranteed as low as any house in this line in the United States.

THE C., H. & D. LIMITED TRAINS.—The enterprising and well-equipped C., H. & D. R. R. have put on several new and elegant vestibuled limited trains in connection with the Monon route from Chicago to Indianapolis and the South. The day coaches have double windows and are lighted by gas or electricity, and are nearly as elegant as the Pullman coaches which compose the night vestibuled trains. Mr. E. O. McCormick, the genial passenger agent of the C., H. & D., is bound to keep in the lead so far as providing for the comfort and enjoyment of passengers over their lines, as well as the speed and safety regulations.

IRON AND STEEL FACTORS.—It gives us pleasure to call attention in this issue to the card of Messrs. Ely & Deming, iron and steel factors, 23 South Charles street, Baltimore. This firm represent directly such well-known concerns as the Cleveland Forge & Iron Co., Fitzsimons & Co., Cleveland, finished shafting; the Falls Rivet & Machine Co., Cuyahoga Falls, O., manufacturers of Norway iron rivets and burrs, and the Chapman Jack Co., of Cleveland, patent jacks and screws. The Chapman company supply a very powerful jack, but four inches high, capable of lifting four tons. Messrs. Ely & Deming are also in the market for bar iron, boiler plates, rivets and tubes, wrought iron pipes, twist drills, wrenches, angle iron, etc. Their wide connections give them exceptional facilities for filling orders for iron and steel supplies and specialties, and we commend the firm to the notice of the trade.

Manufacturers in Iron and Wood
desiring Plain, Broad Insurance at
Moderate Rate should address the
General Fire Insurance Company
(Mutual), 96 Broadway, New York.
Edward A. Swain, President.



INCLUDING
Extension and Gap Lathes,
Planers with Quick Return,
Drills, &c., Hand Power Ele-
vators with Patent Brake,
Double Chain Screw Hoists
OVERHEAD TRAMWAY, with
Switch, Turntable and Geared
Truck.
Gear Cutting a Specialty.
Send for estimates.

 Manufacture those celebrated
Bells for Towers,
Clocks, Court-Houses,
Cotton Mills, Facto-
ries, &c. Prices and cata-
logues sent free. Address
H. McSHANE & CO.
Baltimore, Md.
Mention this Paper.



ATLANTIC TRANSPORT LINE*,
BETWEEN BALTIMORE AND LONDON
 Calling at Swansea and Philadelphia on the outward
 passage.
 S.S. Maryland, 5,000 tons. Miveursi, 4,200 tons.
 S.S. Maryland, 4,200 tons. S.S. Mich gan, (Bldg.)
 S.S. Montana, 4,200 tons. S.S. Mississippi, (Bldg.)
 S.S. Maine, 4,150 tons.
BALTIMORE STORAGE & LIGHTERAGE CO.
 236 La Salle Street, { and } 10 Fenchurch Street,
 Chicago, Ill. { } London.
 409 Second Street, Baltimore, Md.

The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are
 afforded the traveler. Spacious and Elegant Saloons and
 and State-rooms, with a magnificent view to comfort.
 Unsurpassed Cuisine, which is made a specialty with
 this Line. Elegant service and courteous attention.
 Steamers leave Baltimore every Sunday at 8 p. m.

At Old Point Comfort is located the SPLENDID
 HYGEIA HOTEL, a Delightful Resort at all seasons of
 the year. For Tickets and information apply at
 Company's office,

157 W. BALTIMORE STREET, BALTIMORE.

Or on Board of Steamers.

D. J. HILL, Superintendent,
E. BROWN, General Ticket Agent.

Baltimore Office—American Building.
H. KER HAW, Supt.

Queen & Crescent
ROUTE

SHREVEPORT
LOUISVILLE
CHATTANOOGA
BIRMINGHAM
MEMPHIS
NEW ORLEANS
MOBILE
JACKSONVILLE
CINCINNATI
LEXINGTON
BIRMINGHAM
KNOXVILLE
ASHEVILLE
ATLANTA
SAVANNAH
BRUNSWICK



E. O. McCORMICK,
General Passenger and Ticket Agent.

Attention Manufacturers.

WIRE & WIRE GOODS.
Wire Cloth, Rope. SCREENS for
Coal and Ores. Barbed and
Plain Fencing Wire. Bank
and Office Railings.



I DRINK WATER!



FROM
RUSTLESS IRON PIPES
MADE BY THE
WELLS RUSTLESS IRON CO.
21 CHIEF ST. NEW YORK CITY.
SEND TO THEM FOR CATALOGUE.

THE STILLMAN

— CLEVELAND, OHIO. —

Unsurpassed in its Elegance, Fine Cuisine and Table Service.

Only Fire-Proof Hotel in Cleveland.

Every room heated by Steam and lighted by Electric Light.

RATES \$3.50 TO \$5.00 PER DAY.

Elegant suites can be secured by addressing

J. WARREN COLEMAN, Jr., Manager



Colonnade Hotel,

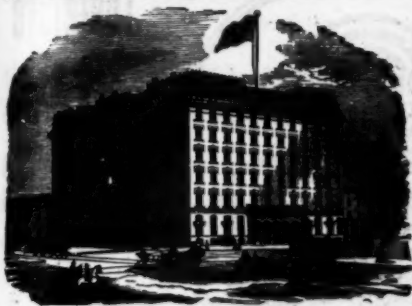
Chestnut St., Cor. 16th,

One block from new Penn. Railroad Depot

PHILADELPHIA.

H. J. & G. R. CRUMP.

A FAVORITE RESORT
FOR ALL
SOUTHERN TRAVEL.



SOUTHERN PEOPLE, TOURISTS, TRAVELERS & BUSINESS MEN

SHOULD STOP AT

THE Beautiful and Elegant
"NIAGARA" HOTEL,

Front and Porter Ave.

BUFFALO, N. Y.

The Most Elegant Hotel in America. Situated commanding a beautiful view of Lake Erie and Niagara River. Spacious conservatory filled with rare exotics. Special rates made for parties remaining one week or longer. Hotel particularly well located for business men and their families. LATE DINNERS, MUSIC.

RATES—\$4.00 a day and upwards (American Plan.)

Telegraph for accommodations in advance at our expense.

HENRY F. ROESSER, Manager.

PIEDMONT AIR LINE.

RICHMOND & DANVILLE R.R. CO.

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

To Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury, Goldsboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile, New Orleans, Texas, Mexico and California, and the South and Southwest.

DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta. Pullman's Palace Buffet and Drawing-Room Sleeping Cars without change to Atlanta, New Orleans, Augusta, etc.

For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Piedmont Air Line, or to any Railroad Agent of principal line North or South.

PEYTON RANDOLPH, General Manager.

SOL. HAAS, Traffic Manager.

JAS. L. TAYLOR, Gen. Pass. Agent.



EAST- TENNESSEE, VIRGINIA, GEORGIA, FLA.

IS THE SHORT LINE

EAST and WEST, NORTH and SOUTH.

Daily Sleeping Car Service between

WASHINGTON and MEMPHIS, WASHINGTON and NEW ORLEANS,

and Double Daily Service between

CINCINNATI and JACKSONVILLE.

THE SHORTEST ROUTE,

THE CHEAPEST ROUTE,

THE QUICKEST ROUTE.

THE BEST ROUTE.

R. W. WRENN, Gen'l Passenger and Ticket Agent, Knoxville, Tenn.
C. A. BENSCOTER, A. G. P. A., Knoxville. S. H. HARDWICK, A. G. P. A., Atlanta.
C. A. DESAUSURE, A. G. P. A., Memphis. RAY KNIGHT, A. G. P. A., Selma.

Western Maryland R. R.

Short Freight Line to Westminster, Frederick, Taneytown and Hagerstown, Md.; Waynesboro, Chambersburg, Shippensburg, Hanover, Gettysburg and Carlisle, Pa.; also points on the Frederick Division P. R. R., Gettysburg & Harrisburg R. R., Harrisburg & Potomac R. R., Shenandoah Valley R. R., Norfolk & Western R. R. and connections, also route of

Great Southern Despatch.

All rail Fast Freight Line for Southern and Southwestern points, via Bristol, Tenn. Freight received in any quantity at Hillen Station, and in car loads at Fulton, Canton and Jackson's wharf. Shippers desiring information will be called on. Send postal card with address to

R. H. CRISWOLD,

G. F. A., Hillen Station, Baltimore, Md.



PREMIER FLOUR

OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

PATAPSCO SUPERLATIVE PATENT,

THE PREMIER FLOUR OF AMERICA,

Is a Brand of the HIGHEST GRADES OF WINTER AND SPRING WHEAT, and is UNSURPASSED FOR FAMILY USE.

ASK YOUR GROCER FOR

PATAPSCO SUPERLATIVE PATENT, PATAPSCO FAMILY PATENT, ROLANDO CHOICE PATENT, ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

Lake/Chautauqua Route

FROM THE

South and West to the East

Pullman Line to all points on Lake Chautauqua and to New York. Ask for tickets via

ERIE RAILWAY.

Descriptive pamphlets mailed free on application.
E. B. THOMAS, Second Vice-President.
L. P. FARMER, General Passenger Agent.
W. C. KINERSON, Asst. Gen. Pass. Agt.
CLEVELAND, OHIO.



PRINTING
PRESSES

TYPE AND PRINTERS' MATERIALS
OF EVERY DESCRIPTION

THE JOHN RYAN CO.

BALTIMORE, MD.



BRANCH OFFICE,

152 and 154 Monroe Street, Chicago.

EMPLOYERS WILL PREVENT LOSS
BY ACCIDENTS TO
WORKMEN BY INSURING WITH

Employers' Liability Assurance Corporation.

Agent, G. W. S. HALL, Baltimore.
Firms with pay rolls of
over Sixty Million Dollars now protected

TRADE NOTES.

BLAKESLEE MANUFACTURING CO., Du Quoin, Ill., report the following among recent shipments: Bilge pumps to Chicago, Ill.; air pumps to Birmingham, Ala., and Chicago, Ill.; hydraulic pumps to Grand Rapids, Mich.; Boston, Mass., Chicago, Ill., Monroe, La.; steam pumps to St. Louis, Mo., Erie, Pa., Austin, Texas., De Soto, Ill., Richmond, Va., Chattanooga, Tenn., and Leavenworth, Kas.; jet pumps to Vicksburg, Miss., Helena, Ark., St. Louis, Mo., Austin, Texas, Memphis, Tenn., Pine Bluff, Ark., Des Moines, Ia., Shannopin, Pa., Montgomery, Ala., Kansas City, Mo., Galesburg, Ill., Chattanooga, Tenn., Philadelphia, Pa., New Orleans, La., and Evansville, Ind.

HARDLY any manufacturer is better known to Southern cotton men than Nathan Stedman, proprietor of Stedman's Foundry & Machine Works, at Aurora, Ind., and there are thousands of his cotton presses in use in nearly every part of the South. It should be known, also, that this old concern manufactures an improved disintegrator and pulverizer for grinding phosphate, iron ore, clays, and a hundred other different materials which abound in the South. This new mill is becoming as popular and universally in use as the presses, as the increasing trade in them proves. Correspondence is solicited from persons engaged in manufacturing any ground or pulverized materials.

THE catalogue for 1890 issued by the S. Obermayer Foundry Supply Manufacturing Co., of Cincinnati, O., is not only a fine piece of work, but a necessary hand-book to all foundry-men. The factories of this company, it is claimed, have the largest foundry facing and blacking capacity in the world. Thus, with every possible facility at hand for doing a large business in all its branches, the company is able to fill all orders with great promptness and satisfaction. This catalogue and price-list is completely illustrated and describes all the numerous products of the company, which comprise all iron and brass foundry supplies of every description except the metals and fuel. In sending out this book the company specially announces that "we will thank our customers for calling attention to any faults or shortcomings, and assure the trade that we shall investigate such matters promptly and take special pains to rectify any wrong. * * * We desire your trade and wish to treat you with perfect goods and perfect satisfaction." A copy of the catalogue can be had upon application to the company at Cincinnati.

A VEXING PROBLEM SOLVED.—The Magnolia anti-friction metal, as reported by Chief Engineer R. L. Peck, of the steamer Owego, the City of Paris of the great lakes, has undergone a remarkably satisfactory test, as shown by his log book. The Owego is of 2,500 tons, provided with triple expansion engines of 3,000 horsepower. The Magnolia metal was put in use for the first time on August 1 last, in the low pressure crank pin brasses, 14 inches diameter, 16 inches long. Another friction metal had melted out in the bearing on a previous trip, and the surface was pretty well cut up. The "Magnolia" was hastily run in, and as the bearings were purposely run loose, the metal was subjected to a great deal of pounding. On arrival at Buffalo the metal was found unaffected. The brasses were keyed up, and up to November 18 Mr. Peck states "the chill has not been off them, although we have encountered weather that would lift the propeller wheel out of the water." The metal is made by the Magnolia Anti-Friction Metal Co., 74 Cortlandt street, New York, who are also sole owners and manufacturers of the Camelia brass journal bearings.

CAPITAL WANTED.—The Florida Phosphate Co., of Tallahassee, invites capital for the development of their property. The company is incorporated and issue a prospectus descriptive of the property and the plans of the corporation.

STEAM BOILERS, HOISTING AND MINING ENGINES.—The Charles River Iron Works, Edward Kendall & Sons, Cambridgeport, Mass., make a specialty of furnishing steam boilers, hoisting and mining engines of the best make and highest efficiency. The firm have a large and established patronage. They have just completed ten upright boilers of 1,250 horse-power, 150 pounds working pressure, for the Fall River Iron Works, and are now constructing a new boiler plant for the Cornell Mills, of the same city.

ON Friday last the Aetna Machine Co., Warren, Ohio, closed a contract with Mr. Ralph J. Wick, treasurer of the Lancaster Iron Co., for a 600 horse-power engine for their new plant at Lancaster, Ohio. In July, 1888, the Aetna Co. sold to the same gentleman a 500 horse-power Aetna engine for the Hubbard Iron Co. Hubbard, Ohio. This being the second engine sold to the same party, it speaks well for the merits of the engine. The engine sold in 1888 has been running constantly night and day ever since it was placed in position.

SOUTHERN ENTERPRISE.—One of the most successful and wide-awake enterprises of the South is the Standard Dry-kiln Co., of Louisville, Ky. Science has long since established the fact that the "fittest will always survive." We see the corroboration of this truth on every hand—in the commercial world as well as in nature. Again this law has been most eloquently verified by the success which the Standard Dry-kiln Co., owing to the excellence of their apparatus, has met with. Despite the most formidable competition, the following orders were received during the past three weeks and certainly endorse the excellence and popularity of their dry-kiln and heating apparatus: North Arkansas Lumber Co., Portia, Ark., four lumber-kilns; Paragould Heading Co., Paragould, Ark., one lumber-kiln; G. M. Rosengrant, Paragould, Ark., one lumber-kiln; Henry Wrape, Paragould, Ark., one lumber-kiln; Elliott Furniture Co., Charlotte, N. C., one lumber-kiln; P. V. Deland, Black Rock, Ark., three lumber-kilns; Standard Manufacturing Co., Mt. Carmel, Ill., two lumber-kilns; A. G. Parker & Co., Pike Road, Ala., one lumber-kiln; Martin County Lumber Co., Everett's, N. C., two lumber-kilns; J. F. Prettyman, Sword's Creek, Va., one lumber-kiln; H. Stafford, Louisville, Ky., one lumber-kiln; Showers Bros., Bloomington, Ind., one lumber-kiln; E. McConnell, Catlettsburg, Ky., one lumber-kiln; Vale Royal Manufacturing Co., Savannah, Ga., one lumber-kiln; Thompson Brick Co., Birmingham, Ala., four brick-kilns; J. H. Eglehoff, Louisville, Ky., four brick-kilns; C. C. Mengel, Jr., & Bro. Co., Louisville, Ky., heating factory; Pioneer Worsted Co., Louisville, Ky., heating factory; Old Kentucky Woolen Mills, Louisville, Ky., heating factory; Standard Manufacturing Co., Mt. Carmel, Ill., heating factory.

WM. SIMPKIN, A. S. M. E.

SIMPKIN & HILLYER, ENGINEERS and CONTRACTORS RICHMOND, VA.

Manufacturers of and Agents for Steam Engines, Boilers, Pumps and Heavy Machinery. Economical Steam Plants, Rope and Belt Driving. Special Machinery for Chemical and Fertilizing Works, Gas, Water and Creosote Works. A specialty of the "Warwick" Pole Road Locomotive, "Warwick" Tram Road Locomotive, and the "Warwick" Silent Steam Street Motor. Castings furnished. Repair work solicited. Consultations, Arbitrations and Valuations. Engines indicated. Plans, Specifications and Estimates prepared. Correspondence invited.

WORKS—Newport News, Va.

GENERAL OFFICE 1105 Main St., Richmond, Va.

SEND ALL REPAIRS TO OUR WORKS.

HARRISON SAFETY BOILERS.

Combine Maximum Safety. Economy of Fuel, Durability.

Merits Proven by Over Twenty Years' Practical Work.

All sizes from 4 H. P. to 240 H. P.

Ease of Transportation, Erection and Repair. Full Particulars, Drawings and Estimates mailed upon application.

HARRISON SAFETY BOILER WORKS, Germantown Junction, Philadelphia, Pa. Southern Office, 9 to 13 N. Pryor street, Atlanta, Ga.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best
—IS—
ALWAYS
—THE—
Cheapest.



Therefore
BUY OUR
COLOPHINE
—OR—
Perfect Oils

The above are our specialties in MACHINERY OILS, and are the best oils for the price manufactured. We can give you anything in the OIL LINE, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS,
217 South Street Baltimore, Md.

C. H. FULLAWAY, Pres. H. W. STEVENSON, Vice-Pres. A. L. MAGILTON, Treas.
THE COMMONWEALTH CONSTRUCTION CO., Contracting Engineers,
P. O. BOX 184, PHILADELPHIA, PA.
Water Works, Gas Works, Electric-Light Plants and Sewerage Constructed in all parts of the United States. We offer special inducements to Cities, Boroughs and Towns. Special attention given to the remodeling of Water Works, &c., &c.
PLANS, ESTIMATES AND SPECIFICATIONS FURNISHED. T. S. MIDDLETON, Engineer.

LEWIS J. MILLER, Philadelphia, Pa. **MILLER & BIERCE,** WILL W. BIERCE, Memphis, Tenn.
Engineers and Contractors



Lewis Miller's Improved Steam and Hydraulic Cotton Compress,
(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress in the world that will load oars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pumps, Boilers, and Heavy Machinery in General.

OFFICES: PHILADELPHIA, PA., 16 S. Broad Street. MEMPHIS, TENN., 327 2d Street.

Stilwell's Patent Lime Extracting HEATER AND FILTER Combined.

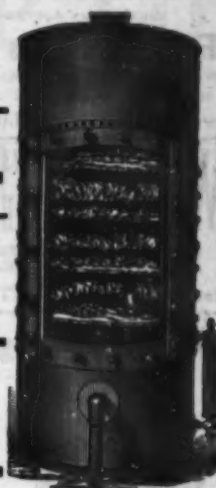
The Only Lime Extracting Heater That Will Prevent Scale in Steam Boilers.

Removing all impurities from the water before it enters the boiler.

Thoroughly Tested Over 3,000 of Them in Daily Use.

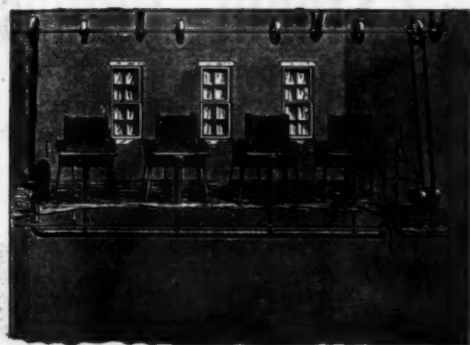
This cut is a facsimile of the appearance of a No. 5 Heater at work on ordinary lime water, when the door was removed after the Heater had been running two weeks. Illustrated Catalogue Free.

STILWELL & BIERCE MFG. CO., DAYTON, O.



Standard Oil Fuel Burner Company

Office and Factory, Fort Plain, New York.



[SECTION OF PLANT OF FIFTY FIRES PUT IN FOR THE LAMSON & SESSIONS CO., CLEVELAND, OHIO.]

THE SYSTEM adopted by this company for the use of Crude Petroleum as fuel is both simple, economical and effective. Perfect combustion, uniform heat, regulated as easily as an ordinary lamp. Although comparatively new, being only introduced in April of this year, the number of fires using IT AMOUNT TO NEAR ONE THOUSAND, WHICH IS PROBABLY MORE THAN ALL THE OTHER DEVICES FOR THIS PURPOSE COMBINED.

This company has yet to meet with the first failure in its appliance. The company is ready to put up any number of fires on trial, and to remove the same free of all expense should it fail to do what is represented.

We use the ordinary blast blower (found in most every establishment) that will give 5 to 6 oz pressure. Steam or compressed air dispensed with.

This Method is well adapted for Desulphurizing Ores and other Mining Purposes.

This Burner is particularly adapted to the heavy work done by axe and scythe makers, large drop forging, etc., as well as the innumerable lighter manufactures.

We have in actual use fires from 6 x 8 inches for sure work, up to 5 x 24 feet for heating Blooms, where we heat 60 gross tons per day.

In fact it can be applied to any purpose where heat is required, obtained from coal or gas. We save in fuel, labor, time, quality of work, health of operatives, cleanliness; also in the durability of belting, which is rapidly destroyed by the fumes of gas produced by anthracite coal.

We have at this office a number of testimonials from large concerns, setting forth the merits as claimed, which are open to inspection, or a circular will be furnished on application. For further information apply at the offices of the company, 187 Broadway.

OFFICE OF LAKE ERIE IRON CO.,
101 CLAIR STREET, CLEVELAND, O., June 28th, 1889.

Gentlemen: In reply to your request for a testimonial as to the merits of your burners, we beg to state that when you first proposed to put your burners in our works we were rather doubtful as to the realization of all you claimed. After a trial of three burners we increased the number to twenty-three, and have added twelve more, and in the near future will use no other means of combustion. We save sixty-five per cent. in fuel, fifty in labor and twenty-five in time, besides producing a better article; and in health and comfort to operators it is beyond comparison.

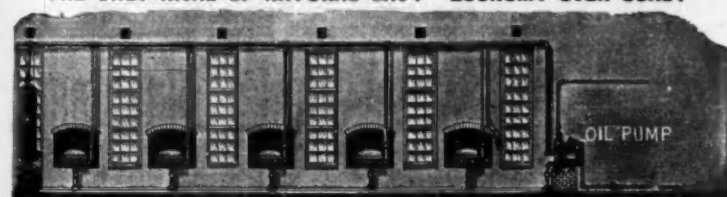
Yours very truly,
LAKE ERIE IRON CO., G. W. SCOFIELD, Treas.

Defiance Oil Fuel Burner & Forge Company.

This Company offers to Iron and Steel Manufacturers their system of burning Crude Petroleum, which they warrant superior to any on the market. We put it in on trial on its merits. The cost is one-third less than the cheapest. For particulars apply to office,

137 BROADWAY, Rooms 58 and 59, - - - - - NEW YORK.

THE AERATED FUEL COMPANY,
425 MAIN STREET, SPRINGFIELD, MASS. J. H. BULLARD, Manager.
FORGING AND WELDING BY PETROLEUM AIR BLAST
THE ONLY RIVAL OF NATURAL GAS! ECONOMY OVER COAL!



This Cut shows our System in Actual Operation in a Nut and Bolt Works where the output is about 40 Tons Daily.

CONTINUOUS FIRES ALL DAY. NO SMOKE, DIRT, OR ASHES.

ALDEN SPEARE'S SONS & CO., 3 Central Wharf, Boston, W. S. COLLINS, 171 Broadway, New York, WILLIAM PICKETT, SON & CO., 170 Lake Street, Chicago, Agents.

THE ONLY SYSTEM WHERE ALL OIL IS BELOW THE BURNERS!

We will replace any Insurance canceled on account of its use when put in according to our plans without extra cost to the insured.

A New Gas for Light and Fuel.

THE BROOKS GAS PROCESS

In practical operation converts crude petroleum into a fixed or non condensable gas for illumination or fuel. The attention of gas companies is called to this process, as by its adoption they will be able to produce a light of equal brilliancy to that of the electric light, and at less cost than by any other process. Manufacturers will find this the fuel with which to compete with natural gas.

ILLUMINATING & FUEL GAS COMPANY,

920 to 925 Drexel Building, Philadelphia, Pa.

W. A. LEAVITT,

Pres. and Gen. Mgr.

HENRY W. BROOKS,

Vice-Pres. and Gen. Supt.

SAMUEL B. HUBY,

General Counsel.

PERFORATED METALS

OF EVERY DESCRIPTION

BY THE HARRINGTON & KING

PERFORATING CO. CHICAGO.

EMPLOYERS WILL PREVENT LOSS
BY ACCIDENTS TO
WORKMEN BY INSURING WITH

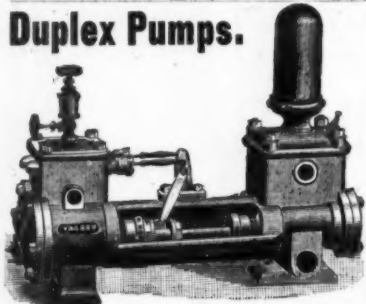
Employers' Liability Assurance Corporation.

Agent, G. W. S. HALL, Baltimore
Firms with pay rolls of
over Sixty Million Dollars now protected

HARALSON & MURRAY,
Manufacturers' Agents and Dealers in
Pumps, Engines & Boilers,
Wood and Iron Working Machinery, and General
Machinists, Mill and Plumbers' Supplies.
Write for Prices. **FLORENCE, ALA.**

WELL DRILLING
Machinery & Tools
ST. LOUIS VISE & ARTESIAN TOOL CO.,
Catalogue Free: **ST. LOUIS, MO.**

Duplex Pumps.



Valley Pump Co., Easthampton, Mass.

If you want the BEST, MOST EFFICIENT and DURABLE

CENTRIFUGAL PUMP

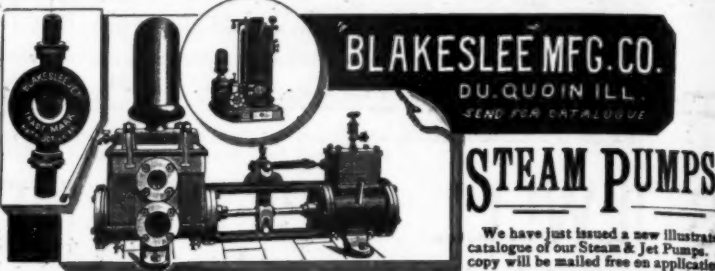


IN THE MARKET, REMEMBER
THAT THE
Original Baldwinville
Centrifugal Pumps
ARE MANUFACTURED ONLY BY
BOGGS & CLARKE, - SYRACUSE N. Y.
Write for Catalogue and Prices.

DEAN BROS' STEAM PUMP WORKS.



INDIANAPOLIS, IND. SEND FOR CATALOGUE AND PRICES.



BLAKESLEE MFG. CO.
DU QUOIN ILL.
SEND FOR CATALOGUE

STEAM PUMPS.

We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.



The Buffalo Steam Pump Co.

MANUFACTURERS OF

Steam Pumps

FOR ALL DUTIES.

BUFFALO, N. Y.



GEO. F. BLAKE MFG. CO.

BUILDERS OF STEAM AND POWER

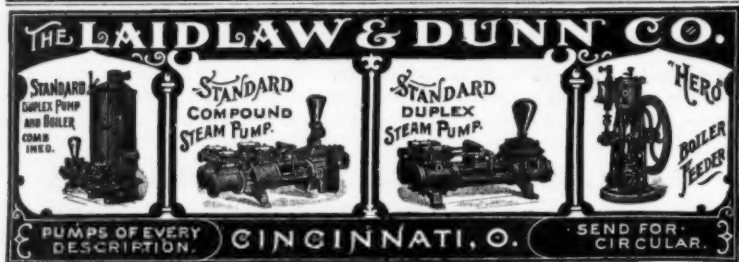
111 Federal Street, Boston.

95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.

PUMPS

THE JOHN H. McCOWAN CO.

42, 44, 46 Central Ave., CINCINNATI, O. Branch House, 1425 E. Main St., RICHMOND, VA.



D. H. MATSON, Pres.

B. L. GREIDER, Sec. and Treas.

RIFE'S HYDRAULIC ENGINE MFG. CO.

MANUFACTURERS OF

**Rife's Hydraulic Engine,
OR RAM,**

No. 3 Third Avenue, S. W.

ROANOKE,

VA.

Correspondence
Solicited.

Good Agents
Wanted.

For supplying
water to
Small Towns,
Factories,
Steam Mills,
Dairies,
Stock Yards,
Residences, etc.
and for
Irrigation,
Railroad Tanks,
etc.



The ORIGINAL UNVULCANIZED PACKING.
CALLED THE STANDARD.
As it is the Packing by which all
others are compared.
Accept no packing as JENKINS' PACKING
unless stamped with our "Trade Mark."
JENKINS' BROS.
71 John St., New York. 21 N. Fifth St., Philadelphia.
105 Milk St., Boston. 54 Dearborn St., Chicago.

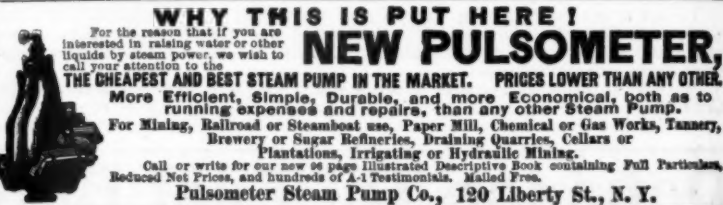
Morrison's Patent Self-Lubricating Packing.



Best for Water or Steam. Best for Ammonia.
OFFICE OF CITIZEN'S RAILWAY CO.,
St. Louis, February 16, 1888.
ROBERT MORRISON, Esq.:
Dear Sir—In reference to your Packing, I desire to say
that having used it on Engines and Pumps at the St. Louis
Elevator, and at the St. Louis Cable & Western Power
Plant, and am at present using it on two 700 horse power
Corliss Engines in valve stems and piston rod at the Citizens'
Railway Co. Power Station, all of the above under severe
service, that it has given me better satisfaction than any
Packing that I have ever used. Respectfully yours,
H. A. FOLMER, Chief Engineer.

PAGE BELTING CO. BOSTON, MASS.
EASTERN AGENTS, CONCORD, N. H.

ROBERT MORRISON, Sole Manufacturer, **ST. LOUIS, MO.**



WHY THIS IS PUT HERE!

NEW PULSOMETER,

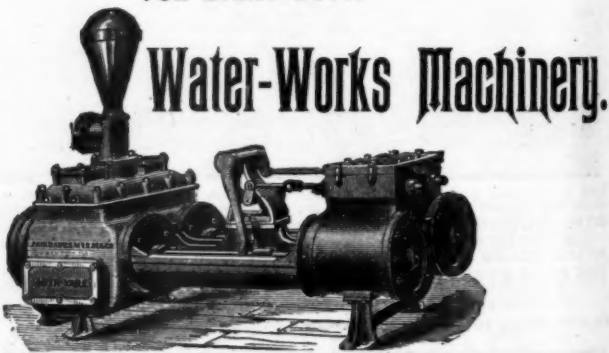
For the reason that if you are
interested in raising water or other
liquids by steam power, we wish to
call your attention to the
THE CHEAPEST AND BEST STEAM PUMP IN THE MARKET. PRICES LOWER THAN ANY OTHER.
More Efficient, Simple, Durable, and more Economical, both as to
running expenses and repairs, than any other Steam Pump.
For Mining, Railroad or Steamboat use, Paper Mill, Chemical or Gas Works, Tannery,
Brewery or Sugar Refineries, Draining Quarries, Cellars or
Plantations, Irrigating or Hydraulic Mining.
Call or write for our new 66 page Illustrated Descriptive Book containing Full Particulars,
Reduced Net Prices, and hundreds of A-1 Testimonials. Mailed Free.
Pulsometer Steam Pump Co., 120 Liberty St., N. Y.

The Improved Smith & Vaile

SINGLE, DUPLEX AND COMPOUND

Steam Pumps

FOR EVERY DUTY.



The SMITH & VAILE CO.

DAYTON, OHIO, and NEW YORK,
112 LIBERTY STREET.

EASTERN AND SOUTHERN AGENTS:

THOS. K. CAREY & BROS., 26 Light Street, - BALTIMORE, MD.
G. W. STORER, 149 North Third Street, - PHILADELPHIA, PA.
D. A. TOMPKINS CO., - CHARLOTTE, N. C., and ATLANTA, GA.

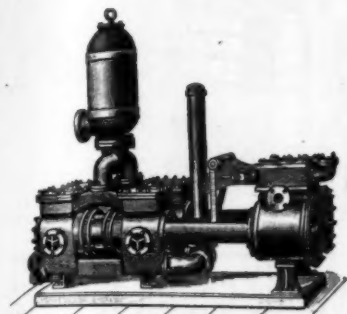
THE GORDON STEAM PUMP CO.

HAMILTON, OHIO.

Steam Pumping Machinery.

WATER WORKS AND SEWERAGE PUMPING ENGINES

FOR CITIES, TOWNS AND VILLAGES.



Pumps for Every Duty.

Patterns Recently Remodeled.

BOILER FEED PUMPS, ELEVATOR PUMPS, FIRE PUMPS, DEEP WELL PUMPS.

NEW YORK--98 LIBERTY STREET.

PHILADELPHIA--705 ARCH STREET.

PITTSBURGH--PENN BUILDING.

CHICAGO--PHENIX BUILDING.

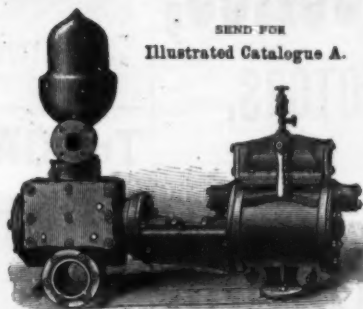


ARTESIAN WELL PUMPS.

CAMERON STEAM PUMPS.

PUMPS FOR
BOILER-FEEDING,
MINES,
REFINERIES,
BREWERIES,
TANNERIES,
IRRIGATING,
FIRE PURPOSES,
RAILROADS and
FILLING TANKS,
CRANK and
FLY WHEEL
And VACUUM

SEND FOR
Illustrated Catalogue A.



SIMPLE,
COMPACT,
DURABLE,
EFFICIENT.

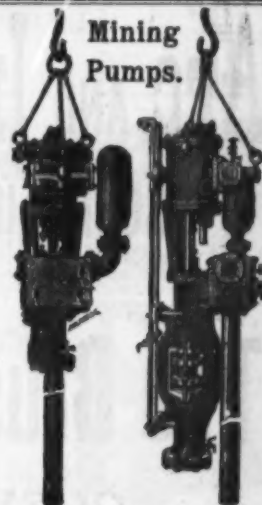
ADAPTED TO
ALL PURPOSES.

NO OUTSIDE
VALVE GEAR.

PUMPS. Foot of East 23d Street,

The A. S. Cameron Steam Pump Works,

NEW YORK.



Mining
Pumps.

Piston Pattern.

Plunger Pattern.



HYDRAULIC JACKS.

BEST IMPROVEMENTS. MOST STYLES.

Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,

Vreeland's Transfer Jacks, Hydraulic and Screw Punches,

LEVER PUNCHES and SHEARS.

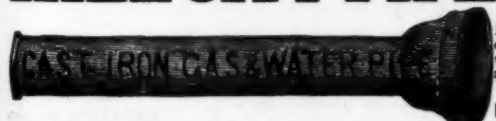
WATSON & STILLMAN

—210 E. 43d Street, NEW YORK.—

H. E. McWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

THE GLAMORGAN COMPANY, Proprietors of HILL CITY PIPE WORKS



Manufacture all kinds of Blast
Furnace, Coking and Mining Ma-
chinery; Boilers, Engines, Tram-
way and Construction Car Castings
and Tobacco Machinery, &c.
Prices on application.

LYNCHBURG, VA.

OHATTANOOGA FOUNDRY & PIPE WORKS.

DAVID GILES, Pres.

C. B. BEXTER, Vice-Pres.

M. LLEWELLYN, Secy. and Treas.

Successors to B. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also Castings and Pat-
terns of Every Descrip-
tion made to order

The Addyston Pipe & Steel Co.

CINCINNATI, OHIO.

PROPRIETORS OF THE BUSINESS AND WORKS FORMERLY OPERATED BY
THE CINCINNATI AND NEWPORT IRON AND PIPE COMPANY.

MATTHEW ADDY,
President.

Geo. F. WILSON,
Vice-President.

DWIGHT KINNEY,
Sec. and Treas.

W. L. DAVIS,
Contracting Agt.

J. K. DIMMICK,
Gen. Supt.

For WATER, GAS, Railroad and Turnpike CULVERTS and SEWERS.

BRANCH CASTINGS OF ALL DESCRIPTIONS.

HYDRAULIC CYLINDERS.

MACHINE CASTINGS and FLANGE PIPE.



CAST IRON PIPE

WORKS:

Addyston, O.

Newport, Ky.

RODNEY HUNT MACHINE CO.

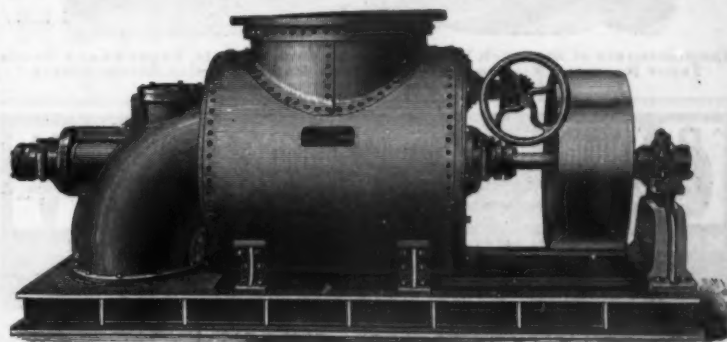
ENGINEERS, MACHINISTS, IRON & BRASS FOUNDERS.

Turbine Water Wheels, Vertical & Horizontal.

BOSTON OFFICE:
70 Kilby Street.

ORANGE, MASS.

New American Turbine.



THE above engraving represents a single 16-inch NEW AMERICAN TURBINE, placed in a horizontal flume mounted on an iron bed. We are prepared to furnish two wheels in a flume of the same construction from 6-inch to 54-inch diameter, also vertical wheels from 6-inch to 66 inches. These wheels are admirably adapted to drive any kind of Machinery where steadiness of motion is required. For descriptive catalogues, address

STOUT, MILLS & TEMPLE, Dayton, Ohio.

Shafting, Hangers.

Castings of every
Description made.

Stationary, Distillery,
Mill and Boiler Work.

JNO. N. MARQUETTE, 118 W Falls Ave., {Year Front Street} BALTIMORE, MD.

BUY THE BRUSH

Then you will have the best of all

Electric ★ Apparatus

Write immediately for a catalogue regarding

Arc AND Incandescence, BRUSH LIGHTS AND MOTORS.

The Brush Electric Co.
CLEVELAND, O.

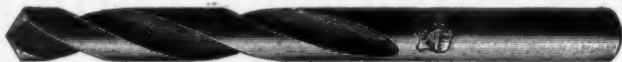
CHATTANOOGA, TENNESSEE.

CHATTANOOGA SAW WORKS.

MANUFACTURERS OF
SUPERIOR SAWS.

MOULDING KNIVES OF EVERY DESCRIPTION.
ESPECIAL ATTENTION
GIVEN TO THE REPAIRING OF ALL KINDS OF SAWS.

THE STANDARD TOOL COMPANY, Cleveland, Ohio.



Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills, Taper Reamers, Milling Cutters, Chucks, Ratchet Drills, Screw-Drivers, Bits, Twist Drill Grinding Machines.

National Hardware and Malleable Iron Works.

Tackle Blocks, Oak Locks, Cleats, Thimbles and Awning Fittings,
MADE OF THE BEST MALLEABLE IRON GALVANIZED.

MALLEABLE, SOFT GREY IRON and STEEL CASTINGS to order.
ALL KINDS OF FITTING AND FINISHING.

THOS. DEVLIN & CO., Lehigh Ave. and Third Sts., Phila., Pa.

CENTRIFUGAL
ROTARY AND PISTON
PUMPS.

Also HOUSE PUMPS.

PUMPS

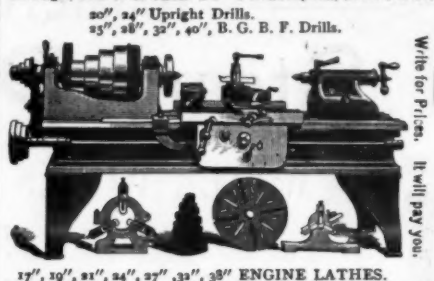
FIRE ENGINES,
HOOK AND LADDER
TRUCKS
And HOSE CARTS.

Send for Catalogue.

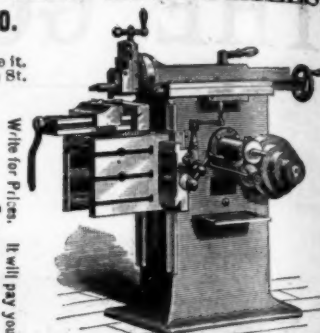
RUMSEY & CO., Limited,
Seneca Falls, N. Y., U. S. A.

SHAPERS, ENGINE LATHES AND DRILLS, The Lodge & Davis Machine Tool Co.

CINCINNATI, OHIO.
New York, 115 Liberty St. Boston, 23 & 25 Purchase St.
Chicago, 68 & 70 S. Canal St. Philadelphia, 19 N. 7th St.



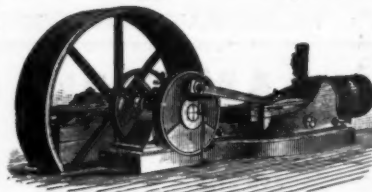
17", 19", 21", 24", 27", 31", 35" ENGINE LATHES.



15 & 20-INCH CRANK SHAPER.

New Tangye Buckeye Automatic Cut-Off Engines

25 TO 1,000 H. P.



IN USE, OVER 2,500.

SALE AGENTS—Ph 1 p & Wiggs Machinery Co., Birmingham, Ala.; Jas. P. Creighton, Louisville, Ky.; N. W. Robinson, 124 Washington Street, Chicago, Ill.

Buckeye Engine Co., Salem, Ohio.

These engines are the combined results of long experience with automatic cut-off regulation and most careful revision of all details. They are designed and constructed for heavy and continuous duty at medium or high rotative speeds. Highest attainable economy in steam consumption and superior regulation guaranteed. Self-contained Automatic Cut-off Engines, 25 to 100 horse-power, for driving dynamo machines, a specialty. Illustrated circulars, with various data as to practical steam engine construction and performance, free by mail. Address

THE GARVIN MACHINE COMPANY



Machinists, Manufacturers
and Dealers,
LAIGHT & CANAL STS.,
NEW YORK.

Lathes, Planers, Drills,
Milling Machines, Profilers,
Screw Machines, Cutter
Grinders, Gear Out-
ting and Milling.

Index Drilling and Rack
Cutting. A good line of Second
Hand Tools always on hand.

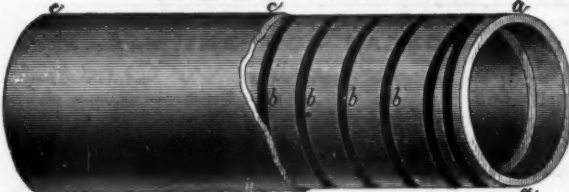
A line of above tools can be seen at
THOMAS K. CAREY & BROS.,
26 Light St., Baltimore Agents.



SMALL GEAR CUTTER.

A. WYCKOFF & SON, ELMIRA, N. Y.

MANUFACTURERS OF
WOOD WATER PIPE



Wood. Hoop-iron bands. Asphaltum coating.

FOR
Coal and Iron Mines
COKE WORKS
AND
General Water
SUPPLY.

SEND FOR
CATALOGUES AND
PRICES.

SOLID EMERY OIL STONE
TRIPLE COATED
WHOLESALE ONLY BY
THE TANITE CO.

SOLID EMERY OIL STONES
AND
Triple Coated
KNIFE SHARPENER
STROUDSBURG, PA.



Buffalo Forges

BLOWERS & EXHAUSTERS.
HEATING FURNACES, HAND BLOWERS,
AND BLACKSMITH DRILLS.

BUFFALO FORGE CO.
BUFFALO, N. Y.

BEFORE PURCHASING ELSEWHERE WRITE US FOR CATALOGUE AND PRICES UPON

Drag Scrapers, Wheel Scrapers, Grading Plows, Dump Carts,

Steel Sinks, Wheelbarrows of all kinds.

The Kilbourne & Jacobs Manfg. Co., Columbus, Ohio, U. S. A.

